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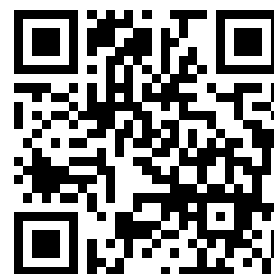


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Hardware
VNA

and Machinery

Established 1886

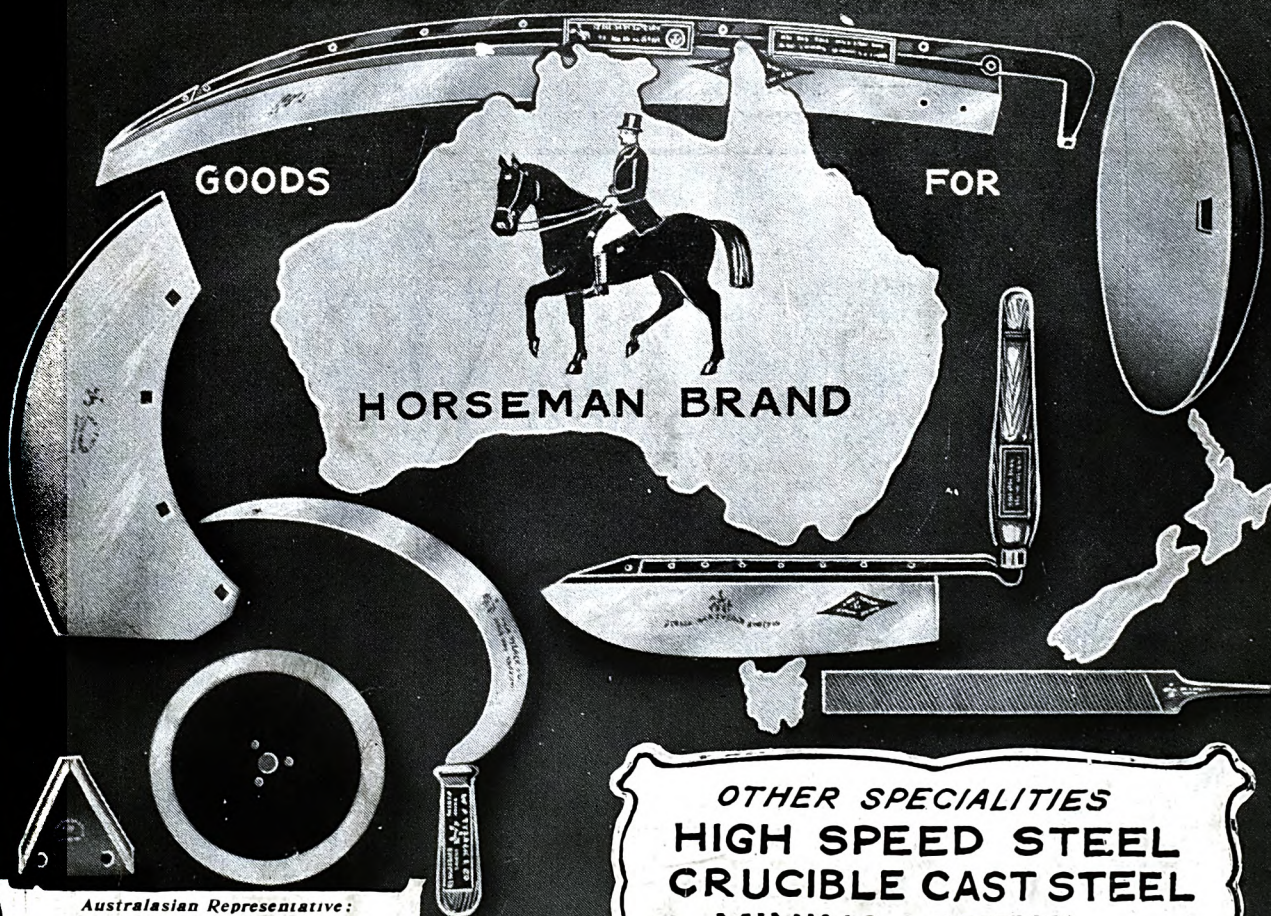
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v. 43

JANUARY 6, 1928

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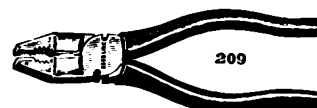
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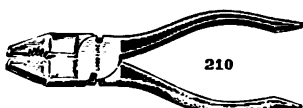
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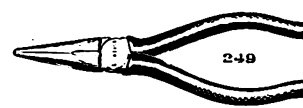
206—Shifting Pliers



209—Electricians' Pliers



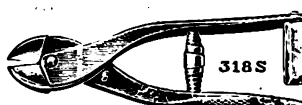
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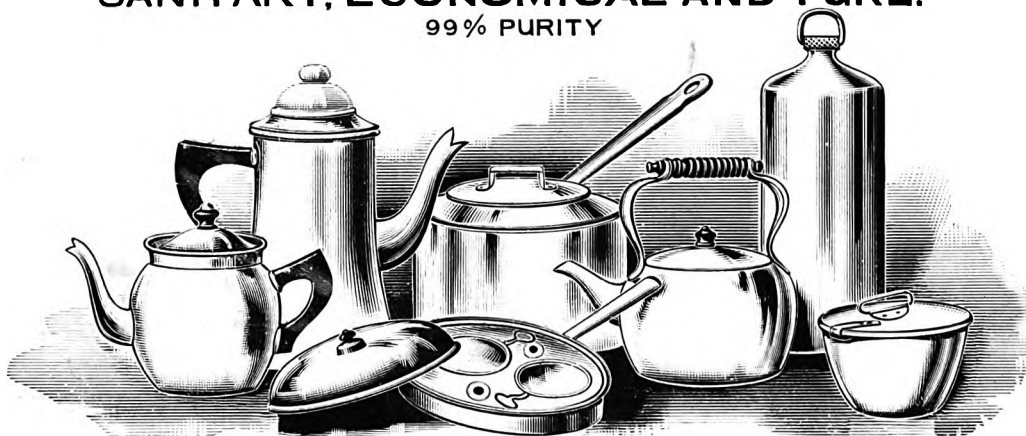
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HARDWARE AND MACHINERY

With which is incorporated

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Established 1886

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ADELAIDE—38 Grenfell Street

LONDON—63 Ludgate Hill, E.C.4.

AMERICAN AGENCY—T. B. Browne Ltd., French Buildings, 551 Fifth Avenue, New York City.

NEW ZEALAND REPRESENTATIVE—Mr. C. W. Carroll, 25 Panama Street, Wellington.

Subscription—10/- per annum.

For 30/- per Annum we will supply (in addition to above) The Ironmonger (London), weekly, and a copy of The Ironmonger Diary. All Post Free. Single copies 1/- each. Subscriptions payable in advance.

Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

Modified Brand.

The United States Glass Co., of Pittsburg, Pa., U.S.A., whose blown and pressed glassware has long been known to the trade as "Tiffin" ware, have added the word "Tiffin" to a gold shield, which brand in the form of a crest will henceforth be upon every piece. They are represented in Australia and New Zealand by Mr. Louis A. Scott, of Danks Building, 324 Pitt-street, Sydney.

Approval or Return.

Generally speaking, when goods are sent upon approval or return the intention is that the person to whom they are entrusted may elect to keep them. Assent may be given by express words, by the customer detaining them for an inordinate length of time, or by dealing with them in such a way as to raise the implication that he has decided to purchase. The vendor may, of course, make any stipulation he considers necessary; for instance, he may make it a condition that the goods are sent for inspection only and must be returned within 24 hours, and that they are not offered for sale, but that if the purchaser wishes to buy he must first return the goods to the owner. Such a condition might, and probably would enable the owner to sue for their return from a person to whom the bailee had, in breach of his agreement, sold them. Two or three cases have occurred in England in which the owner has entrusted precious stones to an agent to show persons who were possible buyers, and in all cases the gems were delivered into the possession of the agent under a memorandum in writing, setting out the terms agreed upon, and under which he undertook to return the stones at once if his customer did not buy. The question has arisen more than once between the owners, as plaintiffs, and an innocent purchaser for value who believed the man who had possession was the real owner and, relying upon that, he bought from and paid him the purchase-money. In each case the Courts decided that if the agreement could be construed as conferring a right upon the agent to himself become the buyer, the property passed to a bona fide purchaser, but if the true construction was that the bailee had merely the right to display and nothing more, he could not give, in fraud of the owner, any title to the goods.

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Voices of the Trade.

"With the season's greetings and best wishes for the continued success of your live and interesting journal." So a New Zealand reader (40/220).

German Engines for South Africa.

According to cablegrams from Johannesburg the railway administration of South Africa has accepted a German tender for the supply of 90 locomotives, costing £560,213. Tenders were received from Great Britain, America, Germany and Italy.

Technical advisers and others concerned unanimously advised the Minister of Railways to accept the German tenders, after giving the fullest consideration to the various proposals submitted, also taking into account the various conditions governing the respective tenders in quality of material and workmanship.

Foreign Exchanges.

Foreign rates of exchange in London for cable transfer on the centres and dates indicated, compare as follows:—

Par.	—	—	Dec. 19	Dec. 22	Dec. 29	Jan. 2
4.886	New York	Dols. to £	4.881	4.881	4.881	4.881
4.866	Montreal	Dols. to £	4.881	4.89	4.891	4.89
25.225	Paris . . .	Frcs. to £	124.00	124.00	124.00	124.02
35.000	Brussels . .	Bels. to £	34.90	34.91	34.90	34.90
25.235	Rome . . .	Lire to £	89.84	92.63	92.43	92.37
12.107	Amsterdam	Florins to £	12.071	12.071	12.061	12.061
12.107	Batavia . .	Gul. to £	12.081	12.071	12.06	12.06
18.159	Stockholm	Kron. to £	18.071	18.07	18.07	18.10
18.159	Oslo . . .	Kron. to £	18.34	18.34	18.34	18.34
18.159	Copenhagen	Kron. to £	18.30	18.20	18.20	15.21
20.43	Berlin . . .	Gmks. to £	20.43	20.42	20.43	20.46
24	Calcutta . .	Pen to rup.	18 1/2	18 1/2	18 1/2	18 1/2
24.58	Yokohama	Pen. to yen.	22 1/2	22 1/2	22 1/2	25
*	Hongkong	Pen to dol.	24 1/2	24 1/2	24 1/2	24 1/2

* Par depends on rise and fall in price of Silver.

Editorial

Members One of Another

In "The Public Life," Mr. J. A. Spender, for many years editor of "The Westminster Gazette," shows a fairness and breadth of mind which makes the reading of his book a peculiar pleasure. He has wise words to say about the relations of capital and labour. The inter-dependence of these two, which should be apparent to all, is not generally recognised either on the one side or on the other. He reminds the "poor" that capital in the forms which it usually takes cannot be divided, although it may easily be destroyed. And he reminds the "rich" that without the co-operation of the "poor" their wealth would be of no use to them. Even if not destroyed it would become unproductive. Poverty and riches, he points out, are after all only relative terms. The two following paragraphs may be quoted as they stand:—

"The processes of production are so various, intricate and adventurous that the State is unlikely to succeed in imposing its organisation on them or stamping the results with its own values. Production for profit, which is so much assailed by Socialistic thinkers, is after all the one guarantee we have that people will get the kinds of things they want, and not the kinds of things that other people think they ought to want. As a general rule no one makes profit unless he meets a public demand. But the productive process is in its essence a partnership, and it is the failure to realise this aspect of it which is in large measure responsible for the modern arraignment of Capital. The worker is not only discontented with his earnings; he has the sense of being constantly at the mercy of invisible powers, who mis-direct his energy, take him on and throw him out at their convenience, treat him as an automaton without will or mind of his own. His demand is for a status which will give him freedom, security and self-respect. It is also, one may say, the demand of vast numbers of middle-class people who also feel that they are not free, and suffer mortifications and anxieties that take the savour out of life. But the class consciousness of which so much is heard in these times is peculiarly the protest of the manual worker against industrial conditions which in his view have reduced him to a chattel or a Robot. This is entirely rational and human, and there is no permanence for any system that turns a deaf ear to it. In so far then as it rules out Socialism Capital must be prepared with answers of its own to the questions which Socialism raises, and it must embody these answers not in pious opinions or generalities, but in its own practice within its workshops and factories.

"I am dealing here only with the foundations of policy, but if it could be understood by the poor that there is nothing to be gained by despoiling the rich, and by the rich that their wealth would have no existence without the consent and co-operation

of the poor, the prospect would at once be more hopeful. Self-government has proved to be the wise answer to rebellion in the sphere of politics, and it may yet, with the necessary differences, be the right answer to industrial revolt. In any case economic absolutism is no more likely to survive than political."

It is a matter for gratulation that to an extent, at least, Capital is ready to meet the reasonable aspirations of Labour not by "pious opinions," but by workshop practices and policies. The best employers in Australia and New Zealand as well as in Great Britain and America manifest a consideration for their employees which is not always appreciated. Welfare schemes are promoted, sickness and super-annuation funds generously subsidised, and suggestions for the better running of the works invited and rewarded. A voice in the control of factory operations has been conceded in places and participation in capital and profits is not unknown in Australia. Unhappily political labour is inclined to frown upon such co-operation. We know of cases where if left to themselves the men would have accepted profit-sharing arrangements with advantage to themselves and to all concerned. But the proposals had to be referred to the Trades Hall Council and that body proved so cold and critical that the employers were constrained to abandon carefully considered and promising schemes. Labour in its present temper is not anxious to promote good feeling between the man who does the work and the man who pays the wages. One can only hope that a better spirit may yet prevail.

New Factory for Gas Stoves.

On land with a frontage of 460 ft. to Sunbury-street, West Footscray, the Parkinson Stove Co. (Australia) Ltd. have opened works for the manufacture of all classes of gas heating and cooking appliances, and stoves of every description. An off-shoot of the Parkinson Stove Co. Ltd., of Birmingham, England, the company acquired some time ago a twenty-three-acre site at the address given in this industrial suburb of Melbourne, and here they have erected a factory where, before long, they hope to be employing anything from 100 to 150 operatives.

For the starting of the industry Sir Henry Cowan, M.P., the chairman of directors, came out from England, and at his invitation a representative company attended the opening ceremonies. The visitors included the Premier of Victoria (Mr. E. J. Hogan), the leader of the Opposition (Sir William McPherson), the Lord Mayor of Melbourne (Sir Stephen Morell), and a number of other well-known citizens. To Mr. Hogan fell the honour of pouring the first molten metal from the cupola. This successfully accomplished, the guests were entertained to luncheon and the company congratulated on their enterprise.

The company have a capital of £100,000 in £1 shares, and the directors are Sir Henry Cowan, Mr. F. R. Smith, Mr. J. A. Macleod, Mr. W. W. Parkinson, Mr. F. Thorp, and Mr. D. M. Gibb. The head office is at 12 Fitzalan-street, Kennington-road, London, and the Victorian agent is Mr. J. M. Macfarlane, of 501 Little Collins-street, Melbourne.

The Ironmonger and Chain Store Competition

(Contributed by 43/220.)

The cheap variety stores offer deadly competition to the entire retail trade. Many traders are holding their own with them, but hardware is almost alone in taking this competition "lying down." Dealers complain bitterly of the so-called unfairness of the opposition, but fail to meet the problem with courage and determination. In America, where the same conditions confront the hardware establishments, the latter are alive to the causes underlying the success of these popular stores, and we could profit by their investigations. Instead of wringing our hands, why not look at the principles upon which this type of business is operated?

We may at once dismiss the notion that chain-store proprietors are endowed with some mysterious, heaven-sent genius. Many of them have previously conducted small suburban shops. They simply put into practice the most elementary rules of modern selling. The hardware trade sticks to old-fashioned ways, but starts up in surprise and anger when superior methods bring to competitors a volume of sales which they never dreamt of.

A comparison of the selling methods of the average store with those of the chain variety is illuminating. If I wish to buy a dozen cup hooks in the regular hardware shop, what happens? An assistant selects a packet from a more or less distant shelf. After fumbling with the carton, he throws a few hooks on the counter, and says "How's that?" Before I am supplied several trips to and from may be needed. In the cheap store every article is plainly in sight. I merely select the hooks, and hand them to the assistant, who drops them into a bag, takes the money, and the sale is completed. But one seldom leaves without also buying other things. A hundred useful trifles are displayed which tempt the customer to further purchases.

The variety store is so planned that to reach the hardware department the buyer must first pass through others, where he sees an assortment of everyday lines, ranging from druggists' sundries to half-hose—things which appeal to the multitude and show a profit. Hardware is only used as a bait. It is the small items of daily use that swell the volume of sales. The old-established stores seldom display more than a dozen different articles, many of them the larger and slower-selling lines. I cannot be tempted to buy an asphalt roller on the spur of the moment, but a pair of plyers at a shilling will appeal to fifty men out of a hundred. The other fifty will always need some other handy tool.

There is no mystery whatever in the success of the cheap store, yet many hardware men seem quite helpless when asked how they propose to meet these forceful newcomers. They are accused of butting into other people's business. The intruders retort, however, that the hardware trade has fallen down on its job. "If we can sell five hundred screwdrivers in a week, why cannot you? You were handling tools half a century before we arrived on the scene." Such is the tenor of their reply. The variety stores saw the possibilities of modern selling methods before the hardware man, who lacked the enterprise to change his ways. The latter has great advantages. The name is familiar, and has a good reputation. Now that the cheap stores have shown how it is done, why not study their system, and profit by it? There are several of them round the corner.

There is nothing to prevent the hardware man from extending his scope and adding dozens of quick-selling lines to his stock. The chain store draws the public by advertising, and also by the interest which attaches to a variety of commodities

attractively displayed. Unfortunately a majority of the legitimate hardware dealers do not believe in advertising and will not learn how to display their goods. There are notable exceptions—progressive firms who work on modern lines, and easily compete with all-comers. If the rest wish to carry on with success they will have to alter their views on advertising, unless they are content to see outsiders, with no previous experience of this class of business, coolly walk in and show the established houses how to sell hardware in 1928. It is well to remember that there is no sanctity attaching to the sale of ironmongery, or any other commodity. Pots and pans are subject to the same selling principles as any other wares. They are vessels of utility, and civilised man cannot well do without them. But any intelligent person, possessing the least acquaintance with modern methods of display, will outsell the oldest shop in Sydney or Melbourne which refuses to learn those methods.

If you can give me the space in your next issue I may indicate in what ways this competition may be successfully met.

Inquiry Column

Information Supplied.

Seltzogenes.—Name and address of a firm in Melbourne able to effect repairs supplied.

Bread-making Machinery.—Names and addresses of importers and manufacturers supplied.

Madderton's Artists' Colours.—Names and addresses of agents supplied.

Dickson Pencils.—Names and addresses of Australian representatives supplied.

Ice Chests.—Names and addresses of makers in Sydney supplied.

Information Wanted.

"Rieser" Secateurs.—Name and address of agent wanted.

Royal Crown Derby China.—Name and address of agent wanted.

Machine for Cleaning Windows.—Name and address of agent wanted.

Ice Cream Freezer of British make similar to the "Auto."—Name and address of agent wanted.

Kitchen Mfg. Co., Troy, Ohio, U.S.A. (makers of "Kitchen Aid" for paring vegetables, etc.).—Name and address of agent wanted.

LEGAL INQUIRY

Goods Not Ordered.

A firm sends some unordered merchandise to Mr. Brown, and later an account, following up with a threat of legal proceedings if the amount is not paid by a certain date. Is the addressee liable for payment whether he uses the goods or not, or must he return the goods at his own expense?

A. The addressee is not liable for payment, nor is he under any obligation to return the goods at his own expense. If possible he should refuse to take delivery; if delivery has been taken, two courses are open to him. He may return them to the sender, the transit charges being collected on delivery, and notify the sender of his action. If this is inconvenient, he should notify the sender of his non-acceptance of the goods and request him to collect them. If this course be adopted, he must use reasonable care in the storage of the goods pending collection.

Sundry Credits

By J. Knibb.

In Melbourne recently one of the judges rebuked a witness who referred to a certain coin as a "bob."

Base Coinage. "We wish English spoken in this court," said he curtly. I sympathise with his Honour. Call me "Victorian," "Georgian," what you will, I cannot stomach certain words and phrases now current in the world of commerce. "Bike" and "pram" were bad enough, but now we have such compounds as "fry-pan" and "knit-wear" and sports-goods." These, too, I take it, would not pass for current coin with this particular judge. For they are in the same category. The English is frying-pan and knitted-wear and sporting-goods respectively. At the counter as in the court it is well to speak English.

* * *

A noteworthy instance of business enterprise recently came to my notice. In one of our large cities a man set out to do motor-body-building work. He had little capital to begin with, and so poor a show did he make that the regular trade was disinclined to give him employment. What was he to do? Drop the thing altogether? No! Taking his stand at a busy street intersection, he noted the numbers of all the shabby cars that passed him, spent another day at police headquarters obtaining the names and addresses of the owners, and then wrote to them all, a few at a time, offering to "do up" their mounts on special terms. The result was a continuance of orders that kept him going for six months.

* * *

As the years pass the toys given to children at Christmastide seem to become more and more elaborate and expensive. I judge by what I see in the hands of young folks and in the shop windows, the latter especially. Is this wise or well? I think not, and I am glad to find some wise people who agree with me. It is not merely on grounds of economy that we challenge "modern thought" and practice in this regard. Something, we feel, should be left to the imagination of the child. A rag doll will do more for the contentment and culture of a little girl than will a waxed beauty with dainty clothes and a vocabulary of surprising quality. But rag or wax, let it be a doll and not a teddy bear or other zoological monstrosity.

* * *

On grounds of economy, none the less, I hold the thing to be wrong. A gift to a person who cannot appreciate its value is always a doubtful proposition. The boy in the destructive stage of his development will make short work of what cost his father much money and get little good out of it for himself. In some cases he may have provocation, as in the case of him who received a toy watch as soon as he could read the time on the clock in the parlour. When he lay down that night he set the timekeeper (?) at eight o'clock. Awaking next morning, he looked at the watch and then ran to his mother with the intimation that it was time to get up; his watch said so. The mother was less than pleased, for the real time was nearer five than eight. Before noon the boy had got even with the deceiver, operated upon it with the kitchen tin-opener!

This strange-looking word means, literally, the state of being many-fingered, but in dictionary usage it designates those humans who have an unusual number of fingers or toes or both. In II. Samuel 21-20 we read of "a man of great stature that had on every hand six fingers and on every foot six toes." He was a polydactyl. Usually the abnormality is regular, covering fingers and toes, but not always. The departure from the normal five, moreover, is usually upwards—six or seven—but again not always. In the modern world I have seen the picture of a girl with only four digits on each hand and foot.

* * *

Rents and Royalties. Australian boot and shoe manufacturers, or many of them, use imported machines which they do not and cannot buy. These labour-saving devices are not sold outright, but installed on a rent and royalty basis. If all that is said be anywhere near the truth the terms and conditions are rather oppressive and the profits to the patentees more than enough. So loud have been the complaints in Victoria that a "Machinery Monopolies Restriction Bill," sponsored by two private members, is now before the Legislative Assembly. "If passed," says a press advocate of repression, "the bill would not only gradually relax the grip of American vested interests taking excessive toll from the Australian people, but open the way to important industrial developments by Australian and British enterprise."

* * *

While I have little sympathy with monopolies, I would like to know what these particular monopolists have to say for themselves. I have always understood that the machines referred to had revolutionised the making of boots and shoes, bringing within reach of the average purse footwear practically equal to that made by hand at a much higher cost. If that is so the owners of the invention ought to get some advantage from it as well as the makers and wearers of boots. It may be, of course, that they are too proud in the flight and deserve to have their wings clipped. But until that is shown I for one am not going to brandish the shears. The proof is on the plaintiff. As to opening the way "to important industrial developments by Australian and British enterprise," I'd like to know just what this sonorous statement means.

* * *

A book entitled "Human Nature in Business" was issued by British publishers last year. According to this volume, or the advice offered in it, "the selling points of an article are embodied in a series of rhymes which the salesman is compelled to learn, or even sing, so that he shall be sure not to forget the essential argument at the critical moment." Using the words quoted by way of text, the cornerman of "The Hardware Trade Journal" gets to work. Here is one of his verbal specimens:—

Sheffield works are bonnie
Where orders fall from you,
For its there that many a body
Makes cutlery for you.
Makes knives and forks for you,
And guarantees them, too,
And the British public knows that
They are quality through and through.

Well-finished and keen-edged, isn't it? The British workman at his best! Sheffield must be throwing up its corporate hat, while over the border feelings are probably too deep for expression. They're thrown bodies, the Scots.

Personal and Social

Ironmonger's Estate.

By his will the late Mr. William Couston, ironmonger, of Dunedin, New Zealand, disposed of property valued for probate purposes at over £65,000. A sum of £250 was left for the orphanages at Dunedin and Anderson's Bay of the Presbyterian Church.

Opens a Hardware Shop.

Mr. H. C. Vivian, who for the past sixteen years has held the position of manager of the hardware department in the store of D. Copland & Co., Wagga Wagga, and was previously with Grace Bros. Ltd., Sydney, has resigned in favour of going into business on his own account, opening as a hardware merchant in Wagga.

Parting Present.

At the end of November the Christchurch staff of the New Zealand Farmers' Co-operative Association Ltd. met to bid farewell to Mr. A. E. Fox, who, after sixteen years' service, had severed his connection to accept an appointment with Ashby, Bergh & Co. Ltd., of the same city. Mr. W. Machin, the general manager of the company, presented Mr. Fox with a gold watch on behalf of the staff.

Hardware Buyers Dine in Melbourne.

The first dinner of the Buyers' Section of the Victorian Hardware Association was held on the evening of December 8, at Scott's Hotel, the chairman of the section, Mr. L. G. Holder, presiding.

After the Loyal Toast had been honoured, the chairman proposed the toast of "The Hardware Trade." It was, he said, a privilege to belong to the hardware trade—a man's trade, essentially—where one could have the opportunity of being a man amongst men. Although admitting that comparisons were odious, he could not help thinking that hardwaremen were fortunate in comparison with their brethren of Flinders Lane who dealt in silks and ribbons. Just because his goods were perishable, however, the softgoodsman sometimes had the laugh of them. Whereas a lock might last a lifetime, a ribbon had to be renewed every season or oftener.

The wholesale hardware trade of the past had earned a good reputation. This was due to the sterling qualities of the leaders of those days. He himself was a mere youngster at the game, having only completed his twentieth year in the trade, but the memory of Victoria's "grand old man" of hardware, the late Mr. Henry Meeks, still lingered with them. The leaders in the trade to-day were men of integrity and high ideals; and he hoped at the next annual dinner they would have the pleasure of entertaining some of them. The trade had its problems in the past, had them now, and would continue to have them while competition lasted, but healthy competition was good in that it kept them well up to the mark.

Two matters in their favour were deserving of mention. During the late war, when the Fair Profits Commission was functioning, there was an extensive examination made into the Association's fixed price list, with the result that the whole of the list as it stood was adopted by the Commission, who declared that, in their opinion, there was no profiteering in the wholesale hardware trade. Another was the peaceful relations existing between employer and employee. There was certainly a Union, and rightly so, but that union of employees was more in the nature of a guild, and, unaffiliated with the Trades

Hall, it was in a position to enjoy round table conferences with employers. A spirit of co-operation between employee and employer fostered good feeling on both sides. At present things were not too bright, but if the trade kept itself within bounds, traded with prudence and, above all, played the straight game to both competitor and customer, there should be no fear of disaster.

The response to the toast was made by Mr. Henry, who in a retrospect mentioned the names of the "old-timers" who had taught him his trade. During the evening a presentation of a smoker's stand was made to Mr. L. W. Carr, who was about to be married. Mr. Fred Drake, junr., proposed the toast, and was supported by Mr. H. N. Davies. Mr. Carr suitably responded. Speeches were also made by Mr. Vernon Duckett, Mr. A. Davis, and Mr. Ivor Stebbins.

Death of Mr. J. C. Hardie.

The death is reported from Auckland, New Zealand, of Mr. James Clayworth Hardie, of Hardie Bros., ironmongers. He was 57 years of age. A keen motorist and an enthusiastic yachtsman, the late Mr. Hardie had other outdoor interests. He leaves a widow but no children.

Foundry Equipment

The Constructional Engineering Co. Ltd., of Titan Works, Charles Henry-street, Birmingham, are manufacturers of foundry equipment and special materials for use in casting shops.

"Titan" cupolas are widely used in important foundries and metal manufacturing plants in Great Britain, as well as in many other countries throughout the world. The features emphasised by the makers are economy in coke consumption, rapidity of melting, high pouring temperatures, and efficient mechanical construction. Independent poking holes and inspection holes give an uninterrupted view of the interior when poking. Equal distribution of blast is ensured by a special arrangement of air belt and tuyeres. There is no obstruction to the blast in the air belt, while the air belt and top of the cupola are so arranged as to prevent the lodgment or penetration of rain water. Many complete melting plants have been supplied for makers of malleable iron, who report most favourably upon the results obtained in this class of material.

Foundry cranes, ladles, moulding boxes (of pressed steel), drying ovens, and other appliances are included in the company's catalogue. A magnetic separator, for the recovery of iron and steel from brass, is highly recommended by users. These separators are being widely used in England and elsewhere, and users are highly satisfied with the results.

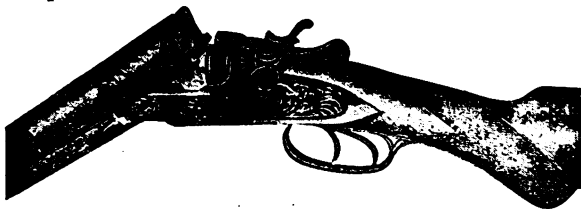
Another product manufactured by the same firm which is being used extensively in England and with excellent results is "Titanite" stone mixture. This is a hard and resistant material used in pattern-making. It is mixed as simply as whitewash, and when poured into a mould will harden in from six to eight hours. It is said to supersede both metal and plaster of Paris patterns. It does not contract, and is confidently guaranteed to give moulded patterns of perfect accuracy and clear definition, even of the finest outlines. "Titanite" stone mixture can be turned, planed, drilled, or finished with emery paper. It is said that up to 40,000 moulds can be made from each pattern plate.

Full particulars may be obtained from the Australian representative, Mr. C. O. White, of Hardware House, Post Office-place, Melbourne.

Novelties and New Samples

Belgian Firearms.

Louis de Brus & Cie, Liege, Belgium, have supplied their Australian representatives, Budden, Crutenden & Neale Ltd., of 189 Clarence-street, Sydney, with a new range of guns, revolvers, automatic pistols and rifles. Particular attention is called to the "Mabel" single-barrel shot gun with automatic ejector. Characterised by a solidity not usually met with in single shot guns, it is furnished with a special hinge screw, and special stock bolt fastening the latter on to the mechanism in such a manner that it can be quickly broken into three parts. The barrel is choke for extra long range; top lever action and rebounding hammer are likewise features of this weapon.



Among the D.B. breech-loading lines are two popular models, viz., No. 1010, a sturdy gun with rebounding bar locks, single bolt, steel barrels in either black or imitation twist finish, matted extension rib, walnut stock checkered, hardened and marbled; and model No. 1030, a more superior type having rebounding bar locks, single bolt, fine steel barrels, finished black or imitation fine scroll Damascus, with matted rib, checkered walnut stock, and patent English hardened fore-end neatly engraved. Its general appearance will be gathered from the illustration.

These manufacturers have been long-established and their list of firearms affords a selection for all purposes and in several grades.

New Mineral Paint.

Berg, Brett & Co. Ltd., 3 Dalley-street, Sydney, are the sole agents in Australia and New Zealand for "Kiesin," a new paint preparation which puts into the hands of painters and contractors a simple means for mixing paints. A mineral colour cohesive, "Kiesin" comes in 1 and 4 gallon tins and 80-gallon drums, and, mixed according to requirements of colour, can be used in the manner of cold water paints and kalsomine. This preparation will not ally itself to either oil or water; but in cases where binding an old surface is necessary it has been found that with the addition of water in the proportion of one to one it has proved successful. It does not rub off, can be washed, is weatherproof and odourless, and affords some protection against fire. Its covering capacity is on a par with other paints and it is low in cost.

Portable Forge.

Mr. Wm. J. Howatt, of 40 King-street, Sydney, has been appointed Australasian representative for Gebr. Weyersberg, manufacturers of tools for all trades, builders' hardware, household hardware and cutlery, and on whose behalf is displayed a comprehensive range of samples. The "Mignon" portable forge, a labour-saving invention, is really worthy of inspection. The rigid frame is made of wrought iron riveted together and carries on its top the cast iron hearth plate. All delicate parts, such as the blower, the treadle, the flywheel, etc., are arranged within

the frame in such a manner as not to project, and so as to be efficiently protected whenever the forge is turned over while in transit. The charcoal pan is fitted with a detachable grate, which allows slag and ashes to drop into a sheet metal container, the chute being so arranged as to deposit the refuse outside the frame, thus preventing any soiling of flywheel or blower. Two substantial sheet metal plates, which move on hinges, are attached to the two longitudinal ends of the hearth plate, the one in front being used as a work table and the one at the back forming a windscreen when required. The blower is arranged high up so as not to draw any dust from the ground. The flywheel is carried on a crank shaft running between hardened points which can be adjusted, and the platform is connected with a frame by means of hinged stays which are fastened by actuating the fly nut. Through the weight of the operator the utmost stability is secured for the appliance. This machine is operated with the foot so that in the first place it allows the user to work with both hands freely, thus doing away with the labourer.

Mr. Howatt has now secured sample rooms at Hardware House, 386 Post Office-place, Melbourne, where a full range of samples will be shown henceforward.

Continental Metalware.

With the object of more thoroughly exploiting these markets the Wurtemberg Electro Plate Co. (commonly known as Wepco), of Wurtemberg and Cologne, have now established a permanent office and showroom at 55 York-street, Sydney, under the control of Mr. A. E. Schoeffel, who has represented them in Australia, New Zealand and the far East for a number of years. The premises are tastefully and rather elaborately furnished on a scale con-



sistent with the high class of goods displayed. Art brassware engages a large and important section of the present showing, and a number of exclusive designs in the large ranges of jardinières, vases, bowls, wine coolers, fruit stands, candle sticks, gongs, smokers' stands and accessories are truly impressive. In the first mentioned line the decorations employed are simple and dignified. Hand-chased work enters liberally into a number of the designs while others again are effectively treated in coloured enamel floral patterns in the form of bands. Grecian lines dominate the shapes of vases giving them a taller appearance than actually. There are many novelties in the form of smokers' companions for table use and suitable for presentation purposes. Similarly, ink stands, paper weights and a host of other articles are comprised in this section, the finishes being true bronze, oxidised silver, satin and polished brass.

The next section—hand cut crystal glassware—embraces a seemingly limitless selection. Goblets, wines and liqueurs are offered in several different designs, and so too water jugs, vases, bowls, fruit and sandwich dishes. Among the latter are several quite distinctive shapes, and instead of the usual diamond cut continuous long lines effect a very elegant appearance. A novelty in this section comes in the form of silver banded waiters with plate glass bottoms beneath which is seen a fine lace mat. There are lines of tall jugs with silver mountings and automatic lids. Others again are provided with ice containers which are separately placed in the jug to hold the ice free from the contents. Punch bowls with and without silver mountings are shown in elaborate and beautiful shapes and chaste designs. These are so exquisitely cut that in almost any angle coloured reflections are observed. Of equal quality, too, are a number of rose bowls, likewise with and without silver mountings.

Overcoming the necessity for polishing electro plated ware is a new finish called the "Patina" process which has the appearance of mellowed bronze and is shown to advantage in the mounted fruit stands, fruit and flower baskets, vases and other lines usually included in electro plated ware.

Stainless cutlery for family use, clubs, hotels and such like contained in cases, canteens, small cabinets and large cabinet stands, are comprised in qualities suitable for the average household or the mansion. Notable are cabinets with double front doors which, when opened, display cutlery services for dinner, fish, fruit, etc., conveniently arranged on the bottom and three sides, and are more convenient perhaps than the chest of drawers style.

Not hitherto seen on this market are one-piece steel cooking utensils embracing boilers, saucepans, frying pans, etc., which, we are told, are hydraulically drawn (not stamped) by a new press especially made for this firm's factory and which has a pressure of 52,000 lb. to the sq. in. The steel used is so treated that it supplies its own surface of a blue-black colour with a texture giving it the appearance of enamel. A feature of these lines is that they are absolutely seamless. Made in the same manner, the same articles can be obtained in high grade stainless steel.

Bas-relief pictures effected in metal, silver oxidised and bronze, make an attractive display and for the most part are reproductions from famous paintings such as the Lord's Supper, by Da Vinci. In this section, too, is a large range of statues of distinguished personages, statesmen, musicians and others, as well as reproductions of famous sporting men, horses and dogs, while for collectors, and perhaps museums, there is a choice selection of metal reproductions in gilt, silver bronze and enamels of ancient Roman and Grecian drinking vessels, plates, bowls, daggers and historical implements. Rich and artistic ornamentation mark some of these, and it is difficult to pass without notice a facsimile of the famous "Athena" bowl. The inside rim is surrounded by a wreath of palm leaves, and branches of acanthus rise from the base combining with a small lotus pattern, the whole in delicate relief artistically picked out with old gilt, while the bottom is entirely covered by a fringe of the goddess. The production of these articles is known as galvanoplastic, a process enabling the minutest details to be faithfully rendered.

Knives for Butchers and Others.

The John Russell Cutlery Co., of Turner's Falls, Mass., U.S.A., manufacturers of "Green River" brand butchers' and kitchen cutlery, are again exploiting these markets through their Australian representative, Mr. Louis A. Scott, Danks Building, 324 Pitt-street, Sydney, who is showing an interesting range of samples. Their butchers', boning, skinning

and slaughtermen's knives have long been favourably known to these markets, being well-established prior to the war. The introduction of kitchen knife sets with high quality stainless steel blades and solid ebon wood handles, securely fastened with large brass rivets, should interest the trade. They comprise an 8-in. slicer, a 7-in. spatula, a 6-in. butcher, a paring knife, and a pot fork.

A Varied Display.

Ryall & Brock, of Hardware House, Post Office-place, Melbourne, are showing an excellent range from the works of James Potts & Son Ltd., of Old Hill, Staffs., whose brand "Cherry Tree" is upon all their lines.

A special hammered and strapped shovel of sturdy make should prove attractive. Supplied in either long or D handle, round or square mouthed, it is most reasonable in price. Another good number is an open socket shovel, with hollow back, which is already finding favour with buyers. Every type of spade and fork is also here, as well as manure forks, and border forks. In all these implements a feature is the quality and grain of the ash handles used, which give great strength and solidity to the various products.

Mr. T. L. Grosvenor, of Wolverhampton, is represented by a selection of animal traps of all kinds. Sold under their brand of "Loud Speaker," rabbit springs are made in six sizes of jaw, from 4 in. to 8 in. They may be ordered with either stamped or forged springs, are complete with chains, and supplied with or without teeth. For stronger and larger animals other patterns are made.

Sheffield Steel in Varying Forms.



Mr. Thomas C. Brown, of 181 Clarence-street, Sydney, is featuring the Phillip's patent digger, made by C. T. Skelton & Co. Ltd., Sheffield, England. Designed on practical lines, this tool is made to serve the purpose of a spade and fork combined, and is particularly effective in turning clay, gravel and other hard soils. It is commendable likewise for the manner in which it breaks up the sub-soil without bringing it to the surface, while yet another point in its favour is that, used as a spade, sticky clay will not so readily adhere to it on account of the fork-shaped blade.

From George Butler & Co. Ltd., cutlery manufacturers, Sheffield, has arrived a comprehensive range of scissors. In addition to regular domestic lines there are patterns expressly for tailors, dressmakers, paperhangers, surgeons, and other lines for horticulturists, cattle branding purposes, etc. Fancy scissors suitable for presentation purposes are also shown. Many of these have gold, silver, and tortoiseshell decorations in the bows and shanks. Practically the whole range is represented in from five to ten different sizes.

Motor Mower.

The Tangent Tool Engineering Co. Ltd., of Keynsham, near Bristol, England, are placing on the Australian market a line of motor mowing machines under the registered name of "Keynsham." These machines, specifically constructed for parks, sporting grounds and large lawns, are offered in three

styles or sizes, namely, 15 in. cutters fitted with 1½ h.p. "J.A.P." two-stroke engine; 27 in. cutters with 250 c.c. "J.A.P." four-stroke engine expressly for use when a trailer seat is required; and a third which is fitted with a 500 c.c. "J.A.P." four-stroke engine, and combines a back roller which can be operated separately from the cutters or only half-roller at a time as required. Entirely British-made and of high quality and efficiency, the prices quoted for these machines should interest the trade, especially the smaller 15 in. machine, which has eight blades, a fuel and lubricating system which operates conjointly, a single clutch governed by a lever in the centre of the handle, and various other features comprehensively described in an illustrated booklet of instructions. No tools are required for adjusting the depth of cut, and all parts are standardised and can be replaced when required.

Mr. T. A. Borthwick, Exchange Buildings, Pitt and Bridge streets, Sydney, is the sole Australian representative for the manufacturers.

Lawn-mower for Australian Conditions.

Following the extended visit to Australia of the managing director of the Derwent Foundry Co. (1920) Ltd., of Derby, England, this company, after thorough tests, have placed into production the "Qualcast" model "K" lawn-mower. It has been specially designed for dealing with our rough and tough grasses, such as "buffalo." The enterprise of the company is shown by the fact that grasses were taken to England and cultivated for the express purpose of testing the efficiency of the new mower under practical conditions.

Ball bearings have been introduced in the vital parts of the machine. These bearings are self-adjusting, and the blades self-aligning. The use of a spring and floating cone renders the mower shock-absorbing, easing the blow to the blades in the event of striking stones or other obstructions. There are four spiders on all sizes, embodying the makers' patented feature on the ends. There the spider fits closely against the bearing housing, and prevents grass working its way around the spindle, and so clogging its action.

The cylinder is 6 in. in diameter, and the wheels 10 in. Three sizes are made—14 in., 16 in., and 18 in. cut. There are five rotary blades, which are of Sheffield steel rolled to a special analysis. The blade curve is designed in such a way as to allow any obstruction to slide along, and to be thrown off the end. It is claimed that this feature, together with the shock-absorbing principle embodied in the spring and cone, reduce to a minimum the possibility of damage to the blades.

It has been arranged to have the factory ready for full production of the model "K" by May, 1928, in good time for the new season's deliveries. An important point is that this mower will be handled at a fixed selling price throughout Australia, and all spare parts will be constantly carried in Melbourne and Sydney.

Sporting Goods.

Ryall & Brock, of 386 Post Office-place, Melbourne, represent B. Warsop & Sons Ltd., of St. John's Wood, London, manufacturers of cricket bats, stumps, hockey sticks, and similar requisites. Their "Improved Conqueror" cricket bats, the name of which is registered, have a patented handle composed of a combination of cane, with mock buckskin, and rubber. The handle has been devised to give resiliency, with good "whip" and quick recovery. In this grade a range is supplied from the "extra special" selected to a reliable medium-priced bat. Another series of cane and rubber-handled bats is also made, giving a wide selection of styles suit-

able for all users. In addition to stumps, of which a range is made, accessories such as gloves, leg guards, balls, and cricket bags are featured by the firm.

H. J. Gray & Sons Ltd., Playfair Works, Cambridge, England, display an excellent line of tennis racquets. Their leading racquet is the "Light Blue," familiar to many of the players at Wimbledon, and used by a number of tournament winners. Other models are "Max Woosnam," "Masterpiece," "Paramount," "Defiance," "Cambridge," "Shamrock," and "Pioneer." The makers stress the fact that good English ash is used exclusively in all these racquets, close attention being given to strength and balance throughout the process of manufacture. To meet the demand for lower-priced lines four different models are shown, which provide a good racquet for amateur or school use. These are named respectively the "Match," "Club," "Eclipse," and "Marvel."

The Ashaway Line & Twine Manufacturing Co., of Ashaway, R.I., U.S.A., are makers of every description of linen and braided silk fishing lines. The establishment dates back to 1824, when the founder of the company left the fishing industry to make lines for the New England fishermen. The Ashaway people are perhaps best known to fishermen as makers of the original "Cuttyhunk" linen lines; a special hand-laid quality used for salt-water game fishing, and which has become popular for serious work amongst sportsmen everywhere. Included in the firm's catalogue is a large range of special silk enamelled lines, put up in all lengths, and attractively reeled and boxed, as well as cotton and linen types for all purposes. The trade mark is "Swastika Brand," a representation of this sign appearing upon all Ashaway goods.

Correspondence

Firearms on the Australian Market.

(To the Editor, "Hardware and Machinery.")

Sir,—When purchasing American firearms on the Australian market, I wonder if the buyers are aware of the duty imposed on these weapons imported from Great Britain into the United States? Here is an extract from "The Sporting Goods Review" (England) of September 20 last:—

"For shotguns, breech-loading repeating rifles, etc., costing 5 dollars, the duty is 1.50 dollars and 45 per cent. ad valorem. Over 5 dollars up to 10, 4 dollars and 45 per cent. ad valorem. Ten dollars up to 25 dollars the duty is 5 dollars each and 45 per cent. ad valorem. On guns, etc., over 25 dollars the duty is 10 dollars and 45 per cent. ad valorem. There is also a further charge of 12/6 for Consuls certificate."

No doubt it is an advantage for the United States to have a consulate in Great Britain, but evidently "Uncle Sam" extracts a very large proportion of the cost of this office from exporting merchants by charging 12/6 for the consul's certificate on every invoice.—Yours, etc.,

ALBERT ADAMS,

Australian representative of Westley, Richards & Co. Ltd.

277 Clarence-street, Sydney.

December 15, 1927.

Pottery and Glassware

Staffordshire and the Continent.

Budden, Cruttenden & Neale Ltd., of 189 Clarence-street, Sydney, are displaying new and comprehensive sample ranges from several of their principals.

T. Schearders-Van Kerchove, St. Nicholas, Belgium, are represented by a distinctive collection of Flemish art pottery in the form of quaint and grotesque figures, artistic statuettes and busts, a good variety of old Dutch and old English candle-



sticks, vases, bowls and other ornamental and utility articles, which are particularly pleasing, though remarkably low in price. A feature of these goods, applying to vases and bowls, is the new process of treating them internally to prevent percolation or leakages. The colour harmonises and blendings in these lines are appropriate and good.

John Steventon & Sons Ltd., Burslem, England, favourably known for their popular-priced earthenware, have introduced several new ideas in dinner and toilet sets. A departure has been made from the standard perfectly round service plates to what is styled "Ascot" shape, a sort of semi-octagonal edge slightly scalloped. Dinner and toilet ware dominate the range, with brighter decorations than hitherto in different glaze productions. Mass floral decorations placed at intervals in place of continuous borderings are received favourably by some local buyers. These are comprised in dinner, tea and miscellaneous table articles. Then there is dinner and toilet ware, in which an additional ivory body has been introduced, giving a warmer effect to some of the enamelled and underglazed colourings.

Shore & Coggins, Longton, have a liberal display of china, tea and breakfast ware of a quality and with decorations which should have a wide appeal. Bone china enters appreciably into the list, as do productions in "Bell" china, which is characterised by a good reliable body, well cleared, and having decorations acceptable to the average home. Variations of Crown Derby patterns are given special prominence, the colouring and glaze being notably even and of good quality, especially a line cobalt ground with rich gilt overlay design. Enamelled fruit design

combined with a band of lilac is a favoured number among the many different patterns of dinner ware; also a printed and enamelled pattern, brightly treated in yellow, red and turquoise. China fruit sets to match most of their standard or current decorations are now offered by these manufacturers, and a new "Jacobean" pattern in tea ware comes in both the "Club" and "Empress" shapes well known to this market.

From the Crown Potteries Co., Burslem, is a range of "chubby" teapots in the popular shades of brown with bright blue, mottled and buff bands at the top. These are so made that it is virtually impossible to knock them over, while by a neat device the rim of the lid fits into a groove enabling tea to be poured out with the pot held in a vertical position.

E. Wotzel & Co., Czechoslovakia, make a fine showing of cut glassware of standard and other shapes bearing elegant designs. These comprise salads, rose bowls, comports, jugs, vases, and a large variety of table and ornamental glass. The diamond lustre finish noticeable in this range vies closely with that of higher-grade crystal.

British and Other.

The British Trading Co. Ltd., of Aberdeen House, 204 Clarence-street, Sydney, are showing a wide range of cut crystal on behalf of European makers. Salad bowls are in round and oblong shapes. Liqueur sets comprise decanters of uncommon design and are supplied with crystal trays. Among the toilet table requisites are puff boxes cut both top and bottom, this departure enhancing the appearance. Dressing-table sets, cruets and vases, comprise but a small portion of the samples, and the prices are cut to meet keen competition.

The chinaware includes souvenir novelty lines, among which is a model of the Parliamentary Buildings at Canberra and the Speaker's chair. Souvenir china is made to customers' own order, any design being printed. Hot-water jugs are in various assortments as to size and shape, and jam dishes are made in cut crystal, with E.P. fittings. Fruit stands are made with long pedestals, and the base may be taken out and used as a vase.

Some noteworthy lines of English chinaware are seen. A dinner set bears a deep band of blue and gold intertwined, and plain gold festoons between two circles of gold. In various colours is a new style vase, deeply cut and etched, and having two handles.

New English Ware.

W. E. Bird Ltd. have removed from 200 Castlereagh-street to new premises at 263-65 Clarence-street, Sydney, where their display of crockery and glassware is made to better advantage.

From Wedgwood & Co. Ltd., Tunstall, Staffs., they are showing new lines in earthenware and semi-porcelain. Among the former is a variety of octagonal dessert plates which are attractive by the liberal introduction of black framing, floral, comport, fruit and bird designs of bright colours. They have also an interesting line depicting hunting and Old English coaching scenes in the centres. Dinnerware from the same manufacturers introduces some distinctly new colourful decorations on ivory body. There is likewise shown a revival of embossed floral decorations in dinnerware styled the "Vintage" series. These are shown in plain colours and colour

combinations. A range of Imperial semi-porcelain plates with bands of mazarine blue and fine gold decorations are at once appreciated as of fine quality and finish.

S. Fielding & Co. Ltd., Stoke-on-Trent, England, are represented by a number of new lines known as "Lustrine," which comprises vases and bowls bearing artistic designs introducing tropical and sylvan effects, sometimes upon red, and in a very rich grey ground and floral decorations on blue grounds. They also show a wide range of toilet and general earthenware.

Pre-War Decorations.

J. I. Walters Ltd., of 222 Clarence-street, Sydney, who are representing in Australia and New Zealand Carl Schumann Ltd., china and porcelain manufacturers, Arzberg, Germany, have lately received new sample ranges of salads, fruits, bonbons and nut sets, together with tea, coffee, and dinner sets and services. These lines of Dresden china are offered in several grades, some of which are quoted at particularly low figures, while others are of much higher quality. Flowers and fruit predominate in the decorations, and are the same, we are told, as were in popular demand before the war.

British Pottery at the British Industries Fair of 1928

To the lay mind the manufacture of pottery is associated with the production of cups and saucers, plates and dishes, and similar articles in daily use in civilised countries. Modern pottery manufacture is, however, very much wider in its ramifications and, in the North Staffordshire district, the centre of the great pottery industry in Great Britain, known the world over as "The Potteries," practically every article into the production of which clay enters is made in an infinite variety.

Up to the second half of the 17th century the production of British Staffordshire pottery was limited in quantity and crudely made. Although some of the early pioneers were working hard up to this time the crude method of glazing and finishing pottery at one firing militated against the production of anything like white ware. In 1750 Enoch Booth, of Tunstall, adopted a new method of glazing, i.e., firing the ware to the biscuit or first state of baking, then dipping it into a fluid glaze and subjecting it to a second firing. This method was still further improved by Thomas Whieldon, and perfected by Josiah Wedgwood, the most celebrated of English ceramists, whose cream ware or "Queen's Ware," as it was called eventually, was the forerunner of the fine earthenwares and semi-porcelains for which the "Potteries" is to-day famous. By the latter half of the 18th century well-made and artistic British pottery was being exported to various countries in Europe, a development due principally to the efforts of Josiah Wedgwood. In 1759 he founded his pottery in Burslem, where he commenced the manufacture of pots, first, articles of utility, and later, decorative ware; for example, black basalts and jasper wares, which for all time will be regarded as productions perfect of their kind. These articles were also made in great perfection by William Adams, John Turner, and other historic potters. This period marked the commencement of the industry in the Staffordshire area, which has grown

to be the chief pottery-producing centre of the world.

Although chinaware was made to a limited extent as early as 1750 in the famous potteries of Chelsea and Bow in London, it was not until 1794 that John Davenport established his china factory at Longport, in Staffordshire, and by so doing commenced the Staffordshire chinaware industry, which has since attained such large proportions in that district.

The production of chinaware in Staffordshire is almost exclusively confined to the type of ware known as bone china, due to the fact that a very large proportion of bone ash is included as a raw material in the porcelain body. This method of production, which is peculiar to Great Britain, has, no doubt, contributed very largely to the world-wide popularity of high-class English chinaware, and the credit for its introduction is largely given to Josiah Spode the younger, son of the first Josiah Spode, who commenced making this ware in 1797.

The pottery industry to-day has grown to such proportions that within the comparatively small "Potteries" area alone in Staffordshire there are upwards of 300 factories employing more than 60,000 workpeople. These factories produce all classes of articles in china and earthenware, from the plainest undecorated product to the most elaborately finished artistic article. The technical education of those engaged in the industry is adequately provided for by the North Staffordshire Technical College at Stoke-on-Trent, while valuable work in research and improvement in methods of manufacture is carried out by the British Ceramic Society.

Pottery is shipped from the Staffordshire area in large quantities to nearly all overseas markets. (In 1926 the value of pottery and china exported was about £6,000,000.) So wide is the experience of the British potter that he is at all times able and ready to produce types of articles suitable in quality, design and decoration for the special needs of a particular market. He is nowadays subject to severe foreign competition, but he is able to hold his own, for his product merits a world-wide reputation for excellence of quality.

It is therefore well that the cream of the products of the British pottery industry should be displayed on a comprehensive scale at the forthcoming British Industries Fair—the great Trade Fair of Britain—to be held in London and Birmingham from February 20 to March 2, 1928, on a far larger scale than any previous British Industries Fair. At the White City in London—the venue of the London Fair—overseas buyers will be able to see for themselves every class of article produced by British manufacturers of china, earthenware, and stoneware.

Many well-known British firms, including Doulton & Co., will contribute to a display which is to occupy an area of 20,000 square feet of exhibition space.

From the point of view of the overseas buyer the British Industries Fair has many valuable characteristics. The public are excluded from admission during business hours, and only the products of the actual maker may be shown by him at the Fair and then only on his stand. This absence of duplication of exhibits and the elimination of displays by firms who are not the actual makers of the goods they show renders the Fair a valuable means by which the overseas buyer, with a minimum expenditure of time and trouble, can purchase his requirements over practically the whole field of British industry and direct from the manufacturing source.

Publications Received

Forgan's Shares.

The wall calendar sent out from year to year by J. & R. Forgan Ltd., of Crystal Brook and Port Pirie, South Australia, is always welcome, so choice is the picture, so restrained the advertising. This year's selection is not the least acceptable of those we have had from them. "Love's Dawning" is the subject—a charming girl with a letter in her hand and roses at her breast. The issuing firm are known all over Australia as makers of cast chilled plough and cultivator shares and steel cultivator shares.

Hearth Furniture.

Under this heading Edwin Jenkins Pty. Ltd., of 265-73 Exhibition-street, Melbourne, have issued catalogue No. 34, covering fire screens, coal boxes, fenders, kerbs, fire irons and related articles. Their "Little Beauty" and "New Radiator" stoves are also illustrated, together with the "Domus" fire, the rights in which they recently acquired. Fire screens and coal boxes are other additions to their output. In catalogue No. 33 they illustrate their modern metal bedsteads and cots, together with tables and fittings for wooden bedsteads, the two booklets between them carrying all their present designs. A separate price list accompanies the new catalogue.

Australian Engineering Standards.

The Australian Commonwealth Engineering Standards Association have issued a further tentative standard specification, No. C34, 1927 T., "Electrical Performance of Industrial Generators and Motors." Like previous issues, the present suggestions are based on British standard specifications, which embodied the practice of the highest authorities. To suit Australian requirements, however, certain variations have been introduced.

Amendments or modifications are invited from those practically interested in any part of Australia. These should be sent to the headquarters of the association at Macleay House, 16 College-street, Sydney.

B.H.P. Iron and Steel.

Some years ago the Broken Hill Proprietary Co. Ltd. issued a fine wall calendar the mount of which was a plate of steel rolled from the product of their own blast furnaces. Ever since they have kept this time recorder up to date by distributing fresh date slips at the end of the year, and those for 1928 are now to hand. The change from one set to another is easily made.

With headquarters in Melbourne, iron and steel works at Newcastle, and branch offices in Sydney and Adelaide, the company have silver-lead mining interests at Broken Hill, draw their iron ore from Iron Knob, in South Australia, and ship it from Whyalla in that State, obtain their limestone from Taree in New South Wales and Devonport in Tasmania, their dolomite from Havilah in Victoria, and their magnesite from Attunga, also in New South Wales, so that they are really spread over much of the Commonwealth.

"Besco" Tools.

F. T. Edwards Ltd., of 406 Euston-road, London, N.W.1, are known far and wide in connection with machinery for sheet-metal workers. They not only supply new machines and tools for the working of such metals, but also slightly used machines at lower cost. The products of their own factory bear their "Besco" brand and cover a wide range of work.

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combinations. A range of Imperial semi-porcelain plates with bands of mazarine blue and fine gold decorations are at once appreciated as of fine quality and finish.

S. Fielding & Co. Ltd., Stoke-on-Trent, England, are represented by a number of new lines known as "Lustrine," which comprises vases and bowls bearing artistic designs introducing tropical and sylvan effects, sometimes upon red, and in a very rich grey ground and floral decorations on blue grounds. They also show a wide range of toilet and general earthenware.

Pre-War Decorations.

J. I. Walters Ltd., of 222 Clarence-street, Sydney, who are representing in Australia and New Zealand Carl Schumann Ltd., china and porcelain manufacturers, Arzberg, Germany, have lately received new sample ranges of salads, fruits, bonbons and nut sets, together with tea, coffee, and dinner sets and services. These lines of Dresden china are offered in several grades, some of which are quoted at particularly low figures, while others are of much higher quality. Flowers and fruit predominate in the decorations, and are the same, we are told, as were in popular demand before the war.

British Pottery at the British Industries Fair of 1928

To the lay mind the manufacture of pottery is associated with the production of cups and saucers, plates and dishes, and similar articles in daily use in civilised countries. Modern pottery manufacture is, however, very much wider in its ramifications and, in the North Staffordshire district, the centre of the great pottery industry in Great Britain, known the world over as "The Potteries," practically every article into the production of which clay enters is made in an infinite variety.

Up to the second half of the 17th century the production of British Staffordshire pottery was limited in quantity and crudely made. Although some of the early pioneers were working hard up to this time the crude method of glazing and finishing pottery at one firing militated against the production of anything like white ware. In 1750 Enoch Booth, of Tunstall, adopted a new method of glazing, i.e., firing the ware to the biscuit or first state of baking, then dipping it into a fluid glaze and subjecting it to a second firing. This method was still further improved by Thomas Whieldon, and perfected by Josiah Wedgwood, the most celebrated of English ceramists, whose cream ware or "Queen's Ware," as it was called eventually, was the forerunner of the fine earthenwares and semi-porcelains for which the "Potteries" is to-day famous. By the latter half of the 18th century well-made and artistic British pottery was being exported to various countries in Europe, a development due principally to the efforts of Josiah Wedgwood. In 1759 he founded his pottery in Burslem, where he commenced the manufacture of pots, first, articles of utility, and later, decorative ware; for example, black basalts and jasper wares, which for all time will be regarded as productions perfect of their kind. These articles were also made in great perfection by William Adams, John Turner, and other historic potters. This period marked the commencement of the industry in the Staffordshire area, which has grown

to be the chief pottery-producing centre of the world.

Although chinaware was made to a limited extent as early as 1750 in the famous potteries of Chelsea and Bow in London, it was not until 1794 that John Davenport established his china factory at Longport, in Staffordshire, and by so doing commenced the Staffordshire chinaware industry, which has since attained such large proportions in that district.

The production of chinaware in Staffordshire is almost exclusively confined to the type of ware known as bone china, due to the fact that a very large proportion of bone ash is included as a raw material in the porcelain body. This method of production, which is peculiar to Great Britain, has, no doubt, contributed very largely to the world-wide popularity of high-class English chinaware, and the credit for its introduction is largely given to Josiah Spode the younger, son of the first Josiah Spode, who commenced making this ware in 1797.

The pottery industry to-day has grown to such proportions that within the comparatively small "Potteries" area alone in Staffordshire there are upwards of 300 factories employing more than 60,000 workpeople. These factories produce all classes of articles in china and earthenware, from the plainest undecorated product to the most elaborately finished artistic article. The technical education of those engaged in the industry is adequately provided for by the North Staffordshire Technical College at Stoke-on-Trent, while valuable work in research and improvement in methods of manufacture is carried out by the British Ceramic Society.

Pottery is shipped from the Staffordshire area in large quantities to nearly all overseas markets. (In 1926 the value of pottery and china exported was about £6,000,000.) So wide is the experience of the British potter that he is at all times able and ready to produce types of articles suitable in quality, design and decoration for the special needs of a particular market. He is nowadays subject to severe foreign competition, but he is able to hold his own, for his product merits a world-wide reputation for excellence of quality.

It is therefore well that the cream of the products of the British pottery industry should be displayed on a comprehensive scale at the forthcoming British Industries Fair—the great Trade Fair of Britain—to be held in London and Birmingham from February 20 to March 2, 1928, on a far larger scale than any previous British Industries Fair. At the White City in London—the venue of the London Fair—overseas buyers will be able to see for themselves every class of article produced by British manufacturers of china, earthenware, and stoneware.

Many well-known British firms, including Doulton & Co., will contribute to a display which is to occupy an area of 20,000 square feet of exhibition space.

From the point of view of the overseas buyer the British Industries Fair has many valuable characteristics. The public are excluded from admission during business hours, and only the products of the actual maker may be shown by him at the Fair and then only on his stand. This absence of duplication of exhibits and the elimination of displays by firms who are not the actual makers of the goods they show renders the Fair a valuable means by which the overseas buyer, with a minimum expenditure of time and trouble, can purchase his requirements over practically the whole field of British industry and direct from the manufacturing source.

Publications Received

Forgan's Shares.

The wall calendar sent out from year to year by J. & R. Forgan Ltd., of Crystal Brook and Port Pirie, South Australia, is always welcome, so choice is the picture, so restrained the advertising. This year's selection is not the least acceptable of those we have had from them. "Love's Dawning" is the subject—a charming girl with a letter in her hand and roses at her breast. The issuing firm are known all over Australia as makers of cast chilled plough and cultivator shares and steel cultivator shares.

Hearth Furniture.

Under this heading Edwin Jenkins Pty. Ltd., of 265-73 Exhibition-street, Melbourne, have issued catalogue No. 34, covering fire screens, coal boxes, fenders, kerbs, fire irons and related articles. Their "Little Beauty" and "New Radiator" stoves are also illustrated, together with the "Domus" fire, the rights in which they recently acquired. Fire screens and coal boxes are other additions to their output. In catalogue No. 33 they illustrate their modern metal bedsteads and cots, together with tables and fittings for wooden bedsteads, the two booklets between them carrying all their present designs. A separate price list accompanies the new catalogue.

Australian Engineering Standards.

The Australian Commonwealth Engineering Standards Association have issued a further tentative standard specification, No. C34, 1927 T., "Electrical Performance of Industrial Generators and Motors." Like previous issues, the present suggestions are based on British standard specifications, which embodied the practice of the highest authorities. To suit Australian requirements, however, certain variations have been introduced.

Amendments or modifications are invited from those practically interested in any part of Australia. These should be sent to the headquarters of the association at Macleay House, 16 College-street, Sydney.

B.H.P. Iron and Steel.

Some years ago the Broken Hill Proprietary Co. Ltd. issued a fine wall calendar the mount of which was a plate of steel rolled from the product of their own blast furnaces. Ever since they have kept this time recorder up to date by distributing fresh date slips at the end of the year, and those for 1928 are now to hand. The change from one set to another is easily made.

With headquarters in Melbourne, iron and steel works at Newcastle, and branch offices in Sydney and Adelaide, the company have silver-lead mining interests at Broken Hill, draw their iron ore from Iron Knob, in South Australia, and ship it from Whyalla in that State, obtain their limestone from Taree in New South Wales and Devonport in Tasmania, their dolomite from Havilah in Victoria, and their magnesite from Attunga, also in New South Wales, so that they are really spread over much of the Commonwealth.

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The Balance of Trade

By Examiner (23/220)

A year ago men were hopeful, confident, optimistic. To-day they are frightened, hesitating, pessimistic. Our material funds of wealth have not changed; we still have our fertile lands, our stock, our fixed assets of cities, buildings, roads, improvements, factories, with their potentialities of turning out goods for human consumption. Our wool clip will probably prove one of the most valuable ever sold; we will have a wheat crop of over 107,000,000 bushels—and yet a paralysis has crept over us; and the point I wish to make with all the emphasis possible is that it is psychological, the result of bad thoughts in our minds, which it is the duty of every good citizen to fight against. Practise the formula of Coue, the famous French psychologist, and say every day to ourselves and to our friends, "We are getting better and better; we can and will overcome our temporary difficulties, and emerge stronger and better men for the experience."

An Adverse Balance.

Now, of the bad thoughts that have sickled o'er our minds, I attribute one to the constant reiteration by politicians and press of the adverse balance of trade. Perhaps no subject seems simpler, and yet is more complex than this same balance. Our statisticians put down on paper certain figures of our exports, collated at the Customs House, and against them the figures of our imports; and if the latter exceed the former the balance is said to be "against" us; and an adverse balance is regarded as a sign of our going to ruin. No doubt it may signify that we have been living too extravagantly; but the whole thing wants to be elucidated and made as simple as possible so that too much importance may not be ascribed to such figures.

The Fundamental Facts.

In our modern world of commerce the banks play a very important part in that they receive in London practically all proceeds of goods sold as exports and they pay out in London practically all payments for goods imported into Australia, and also the interest on loans borrowed abroad. To conduct these operations they must have money, or credit, in London. Obviously the great part of this London money is obtained from proceeds of our exports, and with this money they buy, or negotiate the bills drawn on Australian merchants in payment of imports, and make the interest payments. If these were the only transactions affecting the London balances of the Australian banks it is obvious that interest payments plus any large excess of imports would very soon eat up all the money obtained from exports, and they would find themselves short of money in London—a position that actually arose in 1921. Now, it is the concentration of the public mind on these figures of imports and exports that has affected it, per the medium of the politicians and the press.

Fallacious Figures.

It is not difficult to see where these figures are fallacious. Obviously, if the balance of indebtedness of Australia were determined solely by the imports

and exports of Australian merchandise, the funds or money of the banks in London would be running very low; in which case they would put up their charge for paying away money in London for the Australian importer, because every such payment would further deplete the already diminished funds of the banks in London. In 1921, when, owing to excessive issue of Letters of Credit by the Australian banks, their funds actually did run very low, the rate of exchange for Telegraphic Transfers went as high as £5 per centum, so unwilling were the banks to part with money in London. But the rate to-day is the very moderate one of 15/- per cent, which clearly indicates that the funds of the banks in London are not depleted but normal. It is the exchange rate and not the figures of imports and exports that indicate the true condition of Australian indebtedness.

Unseen Exports.

From what other sources then are the funds of the banks in London being replenished sub rosa? Let us consider one or two of them. When Australia borrows fresh money abroad it is for the purpose of spending it; the spending of it in Australia naturally creates demand for goods. This stimulates imports. The proceeds of the loan go to credit of the Government or Municipality in London, and the banks are thereby enabled to buy so many more bills of merchants for imports into Australia. Thus, the import figures are swollen without corresponding figures of exports—although we really exported securities to be held by the investors in the loan. But securities are not accounted for in the export figures on which the balance of trade theory is built up; and so to this extent the figures of merchandise only are fallacious.

Difference of Such Imports.

One very important point, but one very little recognised, is that such imports, the proceeds of loans raised abroad, do not require an equivalent of exports to keep the cash of the banks in London in easy condition. The funds with which the bills against such imports are bought is provided by long-term securities, which do not require to be repaid for perhaps twenty or thirty years, and then only by a fresh loan; all that such imports call for is the half-yearly interest bill. Now you see the importance of this fact; the figures of imports are swollen, and an adverse balance of trade is created, but that does not indicate that Australia is rushing to ruin, as politicians and press would have us believe—provided, of course, the loan money is used productively.

Furthermore, when, owing to pessimistic outlook of investors in Australia, prices of good stocks fall, immediately the news is cabled all over the world, and foreign investors rush in to buy when prices are low. Now, such purchases mean that money is paid in to the banks in London for credit of brokers in Australia, and securities are posted to London—again escaping the notice of the Customs House; another

invisible export. Naturally, such funds enable the banks in London to buy or negotiate further bills on Australia, which imply further imports without any corresponding figures of exports. Hence we again see the absolute futility of only taking the tabulated figures of imports and exports and rushing to the conclusion that if the former exceed the latter we are in a bad way.

Immigrants and Visitors.

Again, we are receiving something like 120,000 immigrants every year, and an increasing number of visitors. These all probably pay in to the banks in London money for transfer to Australia, which money adds to the funds of the banks in London appreciably; and again enables them to buy more bills on Australia against imports. Such money is received in London and paid out here without any reflection on the export figures; but such money is an invisible export which escapes the notice of the compiler of the trade figures.

Another Source of Replenishment.

One effect of the high protective duties imposed by the Commonwealth Government has been to induce large manufacturers to establish factories here. To do this takes money. Such money is paid into the credit of banks in London for transmission to Australia; or perhaps large part of it is used to purchase and ship plant, material, etc. Such transactions swell the London balances of banks (exactly as exports do), and tend to increase imports. The latter swell the figures of imports, but the former do not affect the figures of exports, although the result is as if they were exports. Thus we see how delusive the trade figures of imports and exports of merchandise really are in arriving at an intelligent understanding of what the immediate balance of indebtedness of a country is.

Invisible Imports.

On the other hand, the import figures are lacking in the interest payable annually to holders of Australian stocks in Britain and abroad. This, of course, is a very large sum in the aggregate, and takes a fair part of the proceeds of the exports of Australia to give the banks in London the wherewithal to make the payments. Of the total debt of Australian Governments, exceeding 1,000 millions, over 500 millions were raised abroad, which means that the annual interest bill must be some £25,000,000 or half a million a week. To this must also be added the dividends drawn by British and other investors abroad in our public companies. As the total estimated value of Australian production is about £450,000,000, and as we have a set-off in that the wealthy Australian companies are large holders of British securities, the interest bill should not be embarrassing as long as production keeps up and prices of wool, wheat, flour, butter, etc., do not fall.

Australia's Immediate Indebtedness.

This is the preferable way of stating the position rather than speaking of the Balance of Trade, which merely indicates the difference between the declared values of imports and exports. What we want to know is, if Australia is paying her way; to do which we must include all the factors that affect the problem; and the point to be emphasised is that it is the rate of exchange that shows as no other figures can whether Australian exports, borrowed money, transfers of capital, etc., provide the wherewithal to pay for the imports, and interest due overseas; and a 15/- per cent. Telegraphic Transfer rate clearly indicates that for the present at any rate there is no difficulty in doing so.

Hydraulic Sweeper for River Beds

A "hydraulic river sweeper" has recently been used successfully to remove debris from the River Avon, New Zealand. The "sweeper" consists of three engines coupled to three pumps; these take in the water at the stern and deliver it through five-inch pipes with a 1½-inch nozzle outlet at the front of the pontoon, on which the engines are assembled.

The principle is very generally used in New Zealand on the gold mines, where they sluice away great banks of earth by jets of water. The secret of the "river sweeper's" efficiency, however, is the air attachment, where the air is taken through a short pipe and forms a sleeve round the water as it emerges through this nozzle. The general effect is to churn up the debris, shingle and sand, and send the mud in suspension down stream.

The machine is held in position by a line at the back and sides operated by a hand winch. The nozzles in front are deflected from side to side by slight movement of hand levers which send the machine from side to side.

So far the sweeper has travelled nearly a mile down stream, and its work has been reported very satisfactory. Mud, weeds, and debris are sent on down stream, while the shingle remains.

The removal of the mud has now enabled the small springs which exist in most parts of the river bed to again operate.

Rust-Proof Steel

A Londoner named Lindley Duffield is said to have perfected a process for making steel so free from impurities that it will be practically rust-proof. According to the "Monthly Journal" of the British Chamber of Commerce in New York the inventor utilises a rotary furnace which operates at comparatively low temperatures. The ore at different stages is treated with gases until finally a product is secured practically free from impurities. After examining the process and results, Dr. F. M. Perkin, a distinguished metallurgist, wrote: "I am of the opinion that in this process we have a revolution somewhat similar to the Bessemer process for the production of steel." And Mr. R. C. V. Whitfield, a member of the Iron and Steel Institute: "I consider that the Duffield Rotary Furnace offers the best possible mechanical solution whereby the special conditions attaching to successful iron oxide reduction at low temperatures can be economically effective. The Duffield process is a gaseous one, and the inventor's starting point is entirely different from that of any previous research on the subject.

The same journal says that the American rights in the invention are under offer at a figure understood to be two and a half million dollars, plus royalties. In support of the practical value of his discovery, Mr. Duffield points to the rapid deterioration of impure ferric metals. On one railway system in America alone the daily loss through the rusting of steel rails is equal to eighteen tons of metal. The world loss from this cause he puts at between twenty and thirty million tons every year. Then, he maintains, the introduction of a pure steel will revolutionise the galvanising and tin-plate industries. Not only so, but his process makes use of cheap slack coal or coal of any sort instead of special expensive coal or coke, and it can deal with low-grade iron ores quite unsuited for use in the blast furnace.

Interstate General News

The Iron Ores of Western Australia.

According to reports from Perth, there are good prospects of the deposits of iron ore at Yampie Sound, one hundred miles north of Derby, being worked with British capital at an early date. Negotiations for the shipment each year of 150,000 tons of ore to Japan are proceeding between Japanese interests and the holder of an option over Koolan Island leases in the Sound. The leases are held by a Western Australian syndicate, from which Mr. J. Thomson, who formerly held leases of Cockatoo Island deposits in the Sound, has obtained an option. If the transaction is completed it is understood that capital will be found by a group of British ironmasters to instal the necessary plant and equipment for the breaking and shipment of ore.

More Room Needed.

Swans Ltd. expect to move from 304 Pitt-street to new and larger premises at 410-12 Elizabeth-street, Sydney, early in January. During the forty-five years they have been in business they have changed their address three times, moving into larger premises on each occasion. Their first store was situated in a lane off the southern side of Liverpool-street, between George and Pitt streets. At that time their trading name was J. Ed. Salier & Co. The next position was at 119 Bathurst-street, and while here they changed their name to R. C. Swan & Co. Ltd. In 1908 a move was made to the Pitt-street premises, and here the name was curtailed to Swans Ltd.

In making the announcement concerning the change of address, the firm point out that it was in Pitt-street that their greatest development took place, not only in the expansion of their own business, but in the plumbing trade generally.

Business Names in Victoria.

Mention was previously made of a bill introduced into the Victorian Parliament providing for the registration of business names, a tightening up of the law, really, now governing the registration of companies and firms. In the Legislative Assembly on December 1 the Attorney-General (Mr. W. Slater) proposed the addition of the following new clause:—

(1) After the expiration of three months from the date of the commencement of this Act, every corporation and every firm a partner in which is a corporation required by this Act to register, shall in all notices, advertisements, and other official publications, bills of exchange, promissory notes, endorsements, cheques, and orders for money or goods purporting to be signed by or on behalf of such corporation or firm, and in all bills of parcels, invoices, receipts, and letters of credit of such corporation or firm, have mentioned in legible characters—

(a) in the case of the first-mentioned corporation—its corporate name; and

(b) in the case of a firm—the corporate names of any partners which are corporations.

This sub-section shall be read and construed as in aid and not in derogation of section 70 of the Companies Act 1915.

(2) If default is made in compliance with this section such corporation or (as the case may be) every member of such firm shall be liable for every such offence to a penalty of not more than £5.

Provided that no proceedings shall be instituted under this section except by or with the consent of a law officer.

This clause, said the Minister, was the result of representations made by the Melbourne Chamber of Commerce and had the approval of the Registrar-General. The object was to give the fullest publicity to the identity of the persons with whom the trading community were doing business. Suppose, for example, a registered company was trading as the Farm Products Co. Pty. Ltd., and that two of its

members were also trading as Brown & Smith, the firm of Brown & Smith would have to be registered under this clause and all the stationery and trade documents of the company would have to carry the two names, the Farm Products Co. Pty. Ltd., and Brown & Smith.

The new clause was agreed to and the bill read a third time..

Notes from Christchurch, N.Z.

Although a little better than it has been lately, building is still far below the normal standard. The Concert Hall, adjoining the City Council Hall, which has been erected on the site of the old Alexandra Hall, burnt down some years ago, is now practically finished, and will be opened in February. A contract has been let for a large building for the New Zealand Loan & Mercantile Agency Co. Ltd. and the Fullers' Opera House has been renovated, practically a new building being erected in the shell of the old one. J. C. Williamson Ltd. are to start shortly on very extensive alterations to the Theatre Royal in Gloucester-street.

In the monthly industrial bulletin, prepared by the Department of Economics at Canterbury College and received by the last meeting of the Canterbury Chamber of Commerce, figures and graphs are given showing the improvement in the trade position. Wool sales show an appreciable advance in price over last season's level, and dairy produce prices have risen somewhat, the improvements being due to better conditions in the British market and elsewhere.

Further advances are being made towards the electrification of the Lyttleton tunnel; already the line of poles to carry the high-tension wires has been extended for three-quarters of a mile from the Woolston station in the direction of the tunnel, which should be reached in a few weeks. The erection of the brick sub-station at Woolston and the taking through of the electric feeder line from the Adding-ton sub-station will be commenced early in the New Year.

Considerable concern is still being caused to the Railway Department by the new Middleton Marshalling Yards, where, through the lack of experience of the staff in the new gravitation or "humping" system of shunting, accidents and derailments have occurred. This system is said to make trucks travel too fast, and shunters regard the braking of waggons running down the incline as hazardous. Indeed the inclination among them is to let the trucks run when they are going too fast, and this is the cause of derailments. An official inquiry by several heads of branches is now being held.

The Hon. L. S. Amery (Secretary of State for the Dominions), who received an enthusiastic welcome on his arrival recently in Christchurch, has been having a well-earned holiday at Mt. Cook, and states he considers the Franz Josef the finest example of glacier he has seen. During his stay of one day in Christchurch Mr. Amery had many important conferences with business men, and addressed nine different gatherings on subjects of Empire importance in one day.

British Trade in Australia.

The thirteenth annual meeting of the N.S.W. branch of the Australian Association of British Manufacturers and their Representatives was held on December 15 at the Carlton Hotel, Sydney, after the members and their friends to the number of 90 had enjoyed dinner together.

The chairman, Mr. C. E. Mayo, presented his annual report, in which it was stated that the

Council during the past year had set out to effect closer-contact of its members, to create a better understanding, and inspire more enthusiasm in the objects of the association. This objective had met with a large measure of success, aided by the inauguration of regular monthly luncheons, the attendance at which averaged thirty, and it was confidently expected that this number would be appreciably increased throughout the coming year. The first annual ball, held in September last, and which was attended by nearly 300 members and their friends, likewise contributed to the closer coming together of members. The register at the close of the year showed a membership of 235. Reference was made to the extent of foreign competition and propaganda, which the association was doing its best to combat by several means. First might be mentioned the issue of 200,000 blotters, printed on one side, advertising British trade. During the year the Council had been enlarged to establish further trade sections, and was now composed of nineteen members, with 23 meetings to their credit. Reference was made also to the visit of the British Motor Delegation, who were so impressed with the work being carried on that they had influenced the Society of Motor Manufacturers and Traders to become allied. It was also stated that on returning to England the delegates would endeavour to influence other trade associations to unite with the Australian association. As a result additional financial support had already been promised by a number of British manufacturers. Furthermore, a motor section, with Mr. J. S. Strong as permanent secretary, had been established in Sydney to watch and promote British motor trade interests. The activities of this section were successful in combating the proposed reduction of the gross load limit permissible in New South Wales whereby, instead of a reduction from 15 tons to 8 tons, the Government agreed to fix the load limit at 12 tons.

In respect to Tariff Board inquiries, the Council had, in many cases, successfully sought the co-operation of trade Associations in England, and obtained important information concerning production costs and other matter which proved of material assistance to the Tariff Board in its investigations. Indeed, the efforts in this connection had won the expressed appreciation of the chairman of the Board.

Mention was made of the forthcoming British Trade Exhibition to be held in Melbourne from February 23 to April 10, 1928, the arrangements connected with which were proceeding very satisfactorily. Appreciation was expressed of the assistance rendered to the Association during the year by the British Trade Commissioner, and, in closing his remarks, the chairman said that the past year had produced abundant evidence of the value of concerted action, resulting in actual achievement to the benefit of British trade interests generally in Australia.

Chinese Lacquer Ware

(From "The Chinese Economic Bulletin.")

Of the sixty odd lacquer ware manufacturers operating in Foochow only about half a dozen, including those opened by the descendants of the well-known manufacturer Sheng Shao-an, turn out first grade articles. The capital of a Foochow lacquer ware manufacturing shop varies from \$2000 or \$3000 to \$20,000 (from £200 to £2000). The total yearly output from all these shops is valued at nearly a million dollars, the bulk being exported to outside markets.

Foochow lacquer ware may be divided into three

classes according to methods of preparation. The simplest kind is made by the ordinary method of painting. The lacquer is smeared directly on to the wood work, and, after drying, the work is completed. This method is adopted in making such articles as chairs, tables, bookcases and other bulky objects. The lacquer used in this case is of inferior grade. The newly finished article may look bright and showy but after a short time, the coating will shed easily.

The second method is more elaborate. The wood-work to be painted, usually for making into articles of small dimensions, such as trays, tea boxes, cigarette cases and mirror stands, is first coated with a layer of fine brick powder tempered with a certain quantity of lacquer. After the coating is dry, it is polished with a piece of brick under water. When the polishing is completed a layer of lacquer mixed with a small quantity of wheat flour is applied to the polished surface, and, after drying, the surface is once more polished with a brick so as to prepare it for the application of another layer of lacquer. This process is repeated several times until the surface of the work becomes as smooth and shiny as a mirror. If further decoration is desired, a coloured painting or some form of gilding is applied.

The third method is by far the most elaborate. The foregoing two methods are familiar to artisans in other parts of the country, but only Foochow manufacturers can turn out articles by the third method. This is employed only in preparing vases, human figures and other kinds of art works. The article to be painted consists of a clay body, on which a piece of silk is pasted. A layer of first-grade lacquer mixed with a small quantity of wheat flour is applied to the silk. After drying, another layer mixed with a little brick powder is applied. Upon being dried, the surface is polished with a piece of brick to prepare for the application of another layer of lacquer. The process is repeated ten or a dozen times and takes a year or so to complete. The clay body of the article is then removed by macerating the article in water, which dissolves the clay but in no way affects the lacquer or the silk. After this, the article becomes light but not in the least fragile. To improve its appearance, painting or gilding is often added to the surface. The discovery of this method of preparing lacquer ware is credited to Sheng Shao-an, whose descendants are still turning out wares by this method.

The article so prepared involves, of course, considerable cost and labour. Foochow lacquer ware of the best grade is therefore sold at an abnormally high price. The lacquer used for such articles is of the best quality, costing about \$2 a catty (say 3/- per lb.), while ordinary lacquer is sold at only a quarter of the price. The lacquer must be "dried" in the sun and then stored for at least a year before being used. This preparation involves a loss in weight of about 50 per cent. because nearly all the water in the lacquer has been removed by evaporation. Thus the lacquer used in preparing the first-grade ware costs about eight times as much as ordinary lacquer does. Some enterprising manufacturers have, however, discovered a cheaper method of preparing lacquer ware of this kind. Instead of silk, paper or cloth is used to cover the clay body, and in place of lacquer, an admixture of pig's blood and brick powder is applied for the coating. The layers of lacquer are much fewer in number. This saves labour and expense.

To the uninitiated the article thus turned out shows practically no difference when new from that prepared by the more elaborate method, but with the lapse of time the lacquer becomes discoloured and the body disintegrates in a few years. A vase or a human figure made by the former method is sold at over \$100, while one by the cheap method is worth less than \$10.

Exhibition of Australian Manufactures

Promoted by the Chamber of Manufactures of New South Wales

Although the official opening of the Australian Manufacturers' Exhibition, held at the Agricultural Showgrounds, in Sydney, from December 10 to 31, was somewhat marred by inclement weather, the interest manifested in the exhibits by those present, and the attendance later, fully compensated both the organisers and the firms represented.

Engaging the whole of the large Hordern pavilion and hall of industries, the displays were perhaps the best yet made under the auspices of the Chamber of Manufactures of New South Wales. We mention briefly those of most interest to our readers.

"Agrippa" Holders Ltd., of 10-12 Smail-street, Sydney, presented the "Agrippa" electric lamp holder, an Australian invention that is said to have fewer parts than the older makes, to be more rapidly wired, to give continuous contact when under vibration, can be simply locked against ordinary thieving, and has no plungers, hair springs or tiny screws. There is no fraying of cord, the shade can be easily fitted and removed, and the parts can be easily renewed. The whole of the plant for the manufacture of the device is of Australian design and manufacture.

The Austral Bronze Co. Ltd., of O'Riordan-street, Alexandria, Sydney, brought under notice various specimens of their handiwork, including copper sheets, circles, strips, washing copper, segments, and a number of other copper products for different trades and callings. The company's sheet copper is said to be particularly suitable for deep stamping, spinning, seaming and general coppersmith's work.

The Australian Gaslight Co., of Haymarket, Sydney, made a bold bid for recognition with a monster 280 h.p. gas engine and gas booster units of the Michell crankless type, the patents for which are held by Crankless Engines Ltd., 499 Little Collins-street, Melbourne. The order was for seven engines and boosters.

A departure from the ordinary was made by the Australian Institute of Industrial Psychology, which was formed "for the help of industry and the scientific guidance of the youth of the community into avocations for which they may be suited, and for the mitigation of fatigue in industry." Testing the fitness of a youth for any particular calling is one of the things on which the institute offers assistance to commerce and industry. Then, again, investigations are made to determine the most economical method by which an operation may be performed. This involves a careful analysis of the arrangement of the materials and the movement of the worker. Fatigue has always been recognised as a serious factor in reducing workroom efficiency, and noteworthy improvements have been effected by introducing a change which a scientific study of the situation suggested.

The institute is not out for profit, and any fees charged for services are devoted to the purchase of apparatus and the payment of investigations. Mr. H. B. Sevier, vice-president of the Chamber of Manufactures of N.S.W., is the president; Dr. A. H. Martin, M.A., the hon. director; and Mr. L. Edwards, secretary of the Chamber of Manufactures, the hon. secretary.

Bagot Bros., Castlereagh-street, Redfern, made an interesting display of axe and tool handles of all sizes, made from Australian timbers.

The B. & S. Electrical Co. Ltd., of Alberta-street, Sydney, made a display of their circuit breakers of both the air and oil types.

The Broken Hill Proprietary Co. Ltd. had supplied almost all the material from which the steel products shown at the exhibition were made, and they themselves, in conjunction with their subsidiary companies, occupied a large amount of space with a noteworthy exhibit. A barbed wire making machine was working at slow speed in order to show how this essential part of the equipment of the man on the land is made. The company's raw material and by-products were by no means the least interesting features of the display, and included tar, sulphate of ammonia and slag for roads. One section was made up of exhibits from the company's products in various foundries and iron works, including such varied appliances as springs, gas stoves, electric radiators, and an Australian benzol pump, made by Oscar Harvey & Co. Ltd., Mascot, Sydney.

New to Australia is the plant installed for making spring wire, and a large number of factories are now supplied with the locally-made article.

An exhibit that received a good deal of attention from visitors was the model of the Bunnerong Power Station, now being erected at Botany for the Sydney City Council. The capacity of the station will be 375,000 kilowatts, and much of the plant will be made in Australia.

The B. W. Electric Co. Ltd., of Annandale, Sydney, had a noteworthy exhibit, the most important features of which were several examples of the company's own patented combined switch and fuse. The fuses are situated at the back of the blades, which means that the switch and fuse can be reduced to the size of an ordinary switch. The same patent has been embodied in the housing service boards. The size of the combined switch and meter is 10 in. by 5 in., and it does away with the old style of marble or wooden block, which might be anything up to 4 ft. long. The switch and meter are contained in a neat iron-clad case, finished with duco.

The automatic control system made by Electric Control & Engineering Ltd., Camperdown, Sydney, for the new blast furnace of Hoskins Iron & Steel Co. Ltd., was also shown by this firm. A smaller device has been made for controlling the pumps of the Metropolitan Water Sewerage and Drainage Board.

Of particular educational value was the exhibit of the Chief Inspector of Factories, on behalf of the Department of Labour and Industry of N.S.W. It included various devices for the protection of employees engaged in factories, and a prominently displayed poster gave the information that for the year ended July 31 last £1,520,761 had been paid in compensation for preventable accidents alone. The exhibition was made with a view to bring to the notice of manufacturers what can be done in the way of preventing accidents, and to secure the co-operation of employers and employees. There were also modern systems of factory lighting, indirect and diffused lighting, hygienic seating, non-slipping steps, and metal lockers for employees and a number of other devices.

John Heine & Sons Ltd. had loaned a pressing machine with their patent press guard attached, the use of which renders an accident to the operator's hands impossible.

John Close Ltd., of 92-96 Shepherd-street, Sydney, exhibited the "Victor" refrigerator, a machine specially designed to meet Australian conditions. It can be operated either with oil engine or electric motor, connected to the ordinary electric lighting system, and when so connected it is automatic, no alteration being required. The temperature is even, and ice can be made if required. The refrigerant used is harmless, the use of ammonia or sulphur dioxide having been avoided owing to the risk of leakage and consequent danger.

The Clyde Engineering Co. Ltd. now maintain a constant production of car, radio, home lighting and stationary batteries, in addition to telephone and telegraph batteries, home lighting cells and similar products, and a representative selection was shown. Perhaps the greatest interest centred in the home lighting batteries, composed of a number of glass cells of remarkable strength, in which are contained the elements to supply current for electric light, or for operating fans, vacuum cleaners, motors and so forth.

M. Dickinson & Co., of Bulwarra-road and Miller-street, Pyrmont, Sydney, showed a wide range of drop forgings. These they turn out in all classes for the various branches of the engineering trade. The plant has recently been increased.

The Eagle & Globe Steel Co. Ltd., of 379 Kent-street, Sydney, made a display of circular and other saws, a metal bench having been loaned by Thomas Robinson & Sons (Aus.) Ltd.

The Egarsof Glareless Reflector Co. Ltd., of "Daily Telegraph" Buildings, King-street, Sydney, specialise in the manufacture of glareless lights, flareless lights and shop light fittings generally. A special system for lighting show cases and shop windows was in operation, producing novel effects. Cistern floats were also shown, ranging from the smallest size to the largest globes used in irrigation works.

The Fearnhead Manufacturing Co., of Marrickville, Sydney, displayed on panels an extensive range of builders' hardware.

Ferguson, Palin Ltd., of Victoria-road, Marrickville, Sydney, had an attractive stand of Australian-made switchgear and switchboards. State departments and municipal councils are among the company's patrons and they do some business with New Zealand.

A. Forsyth & Co. Ltd., of 329 Kent-street, Sydney, made a very attractive display of prepared fibre, the range including sewing twine and an 18-inch cable of laid coir. The latter is used for mooring ocean-going vessels, is 600 ft. long and weighs 30 cwt. Cotton sash, braided cord and yacht ropes made of Italian fibre and soaked in Stockholm tar, were also shown.

The Fountain Shower Co., of 3 Jabez-street, Marrickville, introduced a number of useful household appliances, including the "Fountain" shower, a self-contained apparatus by means of which a hot or cold shower can be had at any time. One gallon of water will give a shower of three minutes' duration and perfumed bath salts may be used if so desired. Neat in appearance and adjustable to persons of different height, the apparatus is easily worked. The cylinder is filled with hot or cold water, and after a few strokes of a motor-tyre pump is ready to discharge itself automatically. One of these pumps is supplied as part of the outfit.

The "Fountain" tennis court marker, by means of which a tennis court can be marked in five minutes, is equipped with rubber tyres and a special spraying device.

Godfrey Ltd., of Amelia-street, Waterloo, Sydney, had a comprehensive collection of their standard

lines, included in which was the Star-delta self-starters, with air brake, oil immersed and fitted with overload and no-volt protection. Roto starters, interlocked with oil circuit-breakers, were shown, as well as air circuit-breakers, knife switches and fuses, iron-clad switches and fuses, controllers and resistances for a.c. and d.c. motors, together with a number of designs for high tension outdoor switch gear.

Guthridge Ltd., of 10 Parramatta-road, Camperdown, showed a patent broadcast fertilizer spreader, for use with a horse-drawn or motor vehicle, on behalf of the South Australian makers, May Bros. Ltd., of Gawler.

"Rendrock," formerly sold under the name of "Rackarock," was brought prominently before the notice of visitors by means of illustrations of the blasting of Hell's Gate, in New York Harbour.

Billet's patent hot-air tuyere was shown in operation. The apparatus can be adapted to any type of forge and placed at any distance from the wall, or any part of the forge. Consequently, almost any shape or size of iron can be treated. It allows of fire being cleaned without breaking up the arch, thus saving time, and it heats the iron three to six inches above the air chamber in a clear fire.

John Lysaght (Australia) Ltd., of 33 Macquarie-place, Sydney, had an exhibit of black and galvanised sheets made from steel supplied by the Broken Hill Proprietary Co. Ltd. The iron was shown in all stages of manufacture, from the raw steel to the finished product. "Queen's Head," plain, and "Orb" corrugated iron were prominent, and other products were black steel sheets suitable for enamelled hollowware, and for pressed work generally, and a high carbon sheet, suitable for the manufacture of shovels.

Malleable Castings Ltd., of Rich-street, Marrickville, manufacture castings of all kinds for the metal trade, and the display they made included castings of all kinds and for every working trade.

Metal Manufactures Pty. Ltd., of Sydney and Port Kembla, occupied a section with models of electrified railways, as well as their copper conductors and pantograph strips. Copper, brass and aluminium tubes of all diameters from $\frac{1}{8}$ in. to 9 in. were given prominence, and aluminium wire drawn from large bars down to the smallest gauge wire was displayed. A roll of the 800-pair telephone cable used by the P.M.G.'s Department was also on view.

The Morene Artstucco, of Kembla Building, 58 Margaret-street, Sydney, had a fine display of the effects that can be secured from the use of "Morene," a wall-finish product, made from Portland cement. It is suitable for ceiling and wall decorations, and offers a wide variety of distinctive effects in colouring and design. Seeing that it will adhere to wood, glass, patent wall board and other materials, it is also suitable for the background of display windows. It can be easily applied, and being waterproof can be washed if necessary.

The N.S.W. Government Railways and Tramways Department made a large display which attracted the attention of all and sundry. It was probably an eye-opener to many to learn that such an extensive range of railway requirements was made at the workshops. Working models of big locomotives were to be seen, and there were bolts and screws, couplings and iron rails, big pumps and little pumps, signalling lamps and hurricane lamps, and many other accessories and fittings, all well finished and showing evidence of good workmanship.

Parkinson (Australia) Ltd., of Five Dock, Sydney, through the N.S.W. and Queensland distributors, Noyes Bros. (Sydney) Ltd., had an interesting display of their motors. These are designed to give high overload capacities to take care of local fluctuations

and to give low power consumption. Every motor is fitted with Hoffman bearings, a roller bearing at the pulley end and ball bearings at the opposite end. The motors are provided with 95 per cent. pure mica.

Mr. W. H. Plumb, of Kendall-street, Woollahra, make a fine showing of his tools, including quarry hammers, cold chisels, wedges, and soldering irons.

The Protex Safe & Lock Co. Ltd., of McEvoy, George and Allen streets, Waterloo, showed their patent locks and fire-proof safes. The "Protex" patent anti-explosive lock possesses several noteworthy features, and is said to afford security even if the lock is entirely blown away with explosives or drilled or cut out by means of the oxy-acetylene blow pipe. Once the lock is removed by any means the door can only be opened by locating the safety device, a slow and tedious process. The lock is operated by the turn of the key in the main locking device, so that every fastening of the door brings the safety bolts into action. It can be applied in an unlimited number of ways and no two doors need be fitted in a similar manner.

The safes are made in a number of sizes and qualities and the fire-resisting book safes have undergone very severe tests.

The Rotolux Manufacturing Co., of Homebush, Sydney, showed their "Rotolux" clothes dryer in operation. The apparatus consists of a pole carrying four arms at right angles and the one height, to which arms three sets of lines are attached, each within the other. As the post revolves upon a pivot, it is not necessary to carry the basket the length of the lines. The user stands in the one position and brings the unoccupied lines towards her. Raising and lowering are easily effected. The dryer is made of steel, in three sizes, for 80, 100 and 120 ft. of line respectively.

The Scanlan Electric Co. Ltd., of 32 Mary-street, Sydney, showed iron-clad switches, iron-clad switch fuses, air brake knife switches, house service fuses, and similar lines of good finish and appearance.

Tulloch's Phoenix Iron Works Ltd., of Castle-reagh-street, Sydney, had a splendid display of the "Griffin" shovels and garden tools. They are made from special steel supplied by the Broken Hill Proprietary Co. Ltd., and are fitted with Australian hardwood handles. All kinds of shovels were on view, a speciality being made of "T"-handle round-mouthed navvy shovels; long-handle strapped shovels used for post-hole work are a feature of the company's output, and riveted strap shovels are made in various sizes.

The goods shown by the United Nail and Wire Netting Co. Ltd., of Waterloo, Sydney, included an automatic working exhibit, showing how wire nails are made. Neatly arranged in a case was a display of every kind of nail made by the company, ranging from big spikes to carpet tacks. Galvanised barbed wire was also on view.

John While & Sons Ltd., of Crystal and Westbourne streets, Petersham, had an assortment of spiral springs for almost every conceivable use. They ranged from the huge coils used in the working of an ocean-going liner, to others so small that a dozen would go into a match box. One coil, 40 ft. in length, had been made specially for the exhibition, and it attracted attention by reason of its unusual length. One cwt. of steel was used in making this exhibit, whose ultimate fate is to be cut into motor cycle springs.

Mr. White is a director of the P. & M. Co., with factories in various parts of the world, and for them his own company have an order for 600,000 rail anchors for one of the State authorities. Dies for steel sleepers are also being made.

The following exhibitors were awarded First Orders of Merit for their exhibits at the Australian Manufacturers' Exhibition, held in Sydney during December:—

Fearnhead Manufacturing Co. Ltd. (builders' furnishings).

Department of Labour and Industry (labour-saving and prevention from accident devices).

Railways and Tramways Workshops (tools and accessories, miniature trains).

The Australian Gaslight Co. (gas engine).

United Nail and Wire Netting Co. Ltd. (nails, barbed wire, staples, etc.)

Malleable Castings Ltd. (castings).

A. Forsyth & Co. (rope, twine, etc.).

Austral Bronze Co. Ltd. (copper rods and bars, copper sheets, etc.).

Macpherson's Pty. Ltd. (woodworking and other machinery and tools).

W. Plumb (cold chisels, pick heads, etc.).

Broken Hill Proprietary Co. Ltd. (steel and kindred manufactures).

Electrical Manufacturers' Assoc. of N.S.W. (general display of electrical apparatus).

Metal Manufactures Ltd. (wire cables, etc.).

Rylands Bros. Ltd. (wire netting; barbed wire, standard fencing posts, nails, etc.).

Wire Rope Mfg. Co. Ltd. (wire ropes).

Purcell Engineering Co. Ltd. (lathes).

Scanlan Electric Co. Ltd. (switchboards).

Noyes Bros. (Sydney) Ltd. (electric motors).

B.W. Electrical Co. Ltd. (switch and fuse gear—porcelain and cartridge type—insulators).

B. & S. Electrical Co. Ltd. (circuit breakers).

Godfrey Ltd. ("Star" delta starters, air brake, knife switches).

Clyde Engineering Co. Ltd. (batteries).

Electrical Control & Engineering Co. Ltd. (switch fuses).

Ferguson, Pailin Ltd. (switchboards, etc.).

Beware—The Expert (?)

Some short time ago a firm selling electrical appliances to wholesalers and retailers advertised in one of the big daily papers for an experienced salesman, and received a large number of replies. Most of them were from young men who had studied salesmanship deeply, had extraordinarily varied experience, and were anxious to gain a bigger opportunity. One answer stood out prominently. It read:—

"I am a thoroughly experienced salesman and can prove it. I recently sold twelve electric vacuum cleaners in a town which is not supplied with electricity, and is not likely to be supplied for some years to come. That surely is real salesmanship and justifies me, I think, for serious consideration for the post."

The firm decided, after mature consideration, that such an "expert" would be quite wasted on them.

Commonwealth Tariff Decisions

The following decisions of more or less interest to the hardware trade have been made during December. By way of explanation it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (1/6/27, and so on) the date on or from which the new decision took or takes effect:—

Machinery, Machines, etc.—

- 27/1000 Engines, Four-cylinder Internal Combustion, for use in the manufacture of Earth Handling Loaders, under security. (By-law No. 689.) 404 1/6/27

Oils—

- 27/1005 Petroleum and Shale Spirit, viz.:—Naphtha, benzine, benzoline, gasoline, pentane, petrol, and other petroleum or shale spirit, in vessels exceeding one gallon, may be admitted under Tariff Item 229 (c) (2), under security, for purposes other than for use in motor-driven vehicles, cycles, tractors, road rollers and similar appliances using public roads. (By-law No. 687.) 229(c) 11/8/26

Celluloid—

- 27/1007 Sheets, perforated Free unspecified. 12/12/27

Electrical Appliances and Materials—

- 27/1012 Lamps, etc.—Lamps, Electric, self-contained, portable, complete with batteries imported with and for use therewith. 206(a) 12/12/27
Lanterns, Electric, self-contained, portable, complete with batteries imported with and for use therewith.

Note.—The following references in the "Guide" are to be cancelled, viz.:—

Arc Lamp, "Gral Metallic" (page 113).
Lantern (Electric). The Aston, etc. (page 113).

Pocket, Electrical (page 113).
Safety Lamp, Electric.
"Montana," etc. (page 113).
Streetlites Electric Lamp, etc. (page 114).

Testing Lamp, etc. (page 114).
Vapour (Electric) (page 114).
Vapour Electric, etc. (page 175).

Rods—

- 27/1014 Welding, Cast Iron 208(a) 12/12/27
Note.—The reference thereto in "Guide," page 322, is to be cancelled.

Claws—

- 27/1019 Nail, metal 208(a) 19/12/27
Note.—The reference to Nail Claws in Consolidated By-laws, page 85, in By-law No. 28, and in "Guide," page 62, is to be cancelled, but any Nail Claws which were in direct transit to Australia on 19th December, 1927, may be admitted under Tariff Item 219. (By-law No. 699.)

Electrical Appliances and Materials—

- 27/1021 Batteries, Storage, Alkaline, expressly designed for propulsion purposes, under security. (By-law No. 704.) 415(a) 27/8/26

Machinery, Machines, etc.—

- 27/1029 The reference to Centrifugals for sugar mills admissible under Tariff Item 174, vide Consolidated By-laws, page 28, is to be interpreted as covering only the Centrifugal Baskets and Motors when integral to such Baskets.
The reference to Centrifugals, for use in the production of sugar, in "Guide," page 189, is to be amended to read "Centrifugals for sugar mills" in conformity with the relative wording in By-law No. 25.

Lubricators—

- 27/1031 The decision on Lubricators set out in T.D. 27/668 may be interpreted as covering such Lubricators of both the mechanical and non-mechanical types.

Machinery, Machines, etc.—

- 27/1034 Sawing Machines, portable, for hand use, operated by compressed air. (By-law No. 698, Miscellaneous.) 174 12/9/27

Openers—

- 27/1035 Case, hand, metal 208(a) 19/12/27

Note.—The reference to Hand Case Openers in Consolidated By-laws, page 40, in By-law No. 28, and in "Guide," page 256, is to be cancelled, but any such Openers as were in direct transit to Australia on 19th December, 1927, may be admitted under Tariff Item 219. (By-law No. 699.)

Deferred Duties—Deferment Notice No. 29—

- 27/1037 The operation of the deferred duties under the undermentioned Tariff Items has been further postponed to the date shown respectively opposite each item:—

Item 168 (b). Sewing Machines, Treadle or Hand, of the type ordinarily used in the household—

- (1) Machine Heads, whether imported separately or forming part of the complete machine, including accessories except wrenches and oil cans. 1/7/28

Item 181 (a) (2). Valves for Wireless Telegraphy and Telephony. 1/7/28

Item 186. Screw Hooks Eyes and Rings. 1/1/29

Item 397 (a). Cartridges, n.e.i. 1/4/28

Item 397 (d). Powder, Sporting; Wads for Cartridges, n.e.i.; Caps, Percussion; Cartridges for military purposes; Detonators; Cartridge Cases, empty, capped, or uncapped; Fuse Cotton; Mining Fuses, electrical. 1/7/28

Fire Brigade Appliances—

- 27/1050 The classification of Electric Safety Lamps (self-contained), appearing in "Guide," page 126, is to be amended to read "Tariff Item 206 (a)" in conformity with the decision set out in T.D. 27/1012.

Iron and Steel—

- 27/1052 T.D. 27/192 having reference to Iron and Steel Angles, 1½ in. x 1½ in. x ¼ in., having square root and toes, for use in the manufacture of Motor Car Door Hinges, under security, and T.D. 27/193, having reference to Iron and Steel Bars, No. 7 gauge (B.G.) x 2½ in., for use in the manufacture of Motor Car Door Hinges, under security, and By-law No. 123, are to be cancelled, but any such Iron and Steel Angles or Bars as were in direct transit to Australia on 28th December, 1927, may be admitted, under security, under Tariff Item 404. (By-law No. 709.)

Iron and Steel—

- 27/1053 Bars, Annealed, of the following sizes, 404 2/12/27
viz.:—
5½ in. x No. 7 gauge (B.G.)
4½ in. x No. 7 gauge (B.G.)
3 in. x ⅞ in.
2½ in. x ⅞ in.
2 in. x ⅞ in.
for use in the manufacture of Motor Car Door Hinges, under security. (By-law No. 710.)

Iron and Steel—

- 27/1054 Bars, Steel, Mild, Bull-nosed, for use in the manufacture of Railway Carriages, under security. (By-law No. 711.) 404 30/6/27

Machinery, Machines, etc.—

- 27/1055 Mops, polishing, of cloth or calico (sometimes known as brushes). 122 28/12/27

Note.—The reference to the above in Consolidated By-laws, page 22, in By-law No. 25, and in "Guide," page 213, is to be cancelled, but any such Mops as were in direct transit to Australia on 28th December, 1927, may be admitted under Tariff Item 174. (By-law No. 715.)

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.
For English prices, see The Month's Cablegrams on page 21

Sydney, December 28, 1927.

Generally the month of December is quiet, especially with jute fabrics, and the dry season experienced earlier in the year has had considerable bearing on the position. The steamer just arrived from Calcutta may have some effect on the market, but all reports indicate that there will be sufficient stocks to carry on without any marked alteration in price. Turpentine and resin were sold at list prices, and the stocks held were sufficient to supply demand, while the overseas market quoted for indent from America varied during the month. The prices at time of writing were higher than for some time past, and this would appear to be the usual trend of business for these products for the period. Shellac showed much greater firmness in price, and stocks were augmented from other States, but this did not cover the demand, and we are short of requirements. The Calcutta shipment just to hand will not make any improvement, and sellers are securing much higher figures than had been expected. The indent position is quoted very firm, and prices are upward. Castor oil is not held in large supply, and buyers have not overlooked the possibilities. No noticeable price variation is reported in general lines, and shelf goods remain as last issue. There would appear to be a full supply of galvanised sheets, although sales of parcels, both plain and corrugated, have been effected by indentors of British brands, and local manufacturers have sold at list prices to regular clients in good quantities. Nothing conspicuous is reported amongst the trade, and it is felt the prospects for the New Year are likely to be brighter than was forecasted. The general rains in October have had a very inspiring effect amongst the farmers, and country traders think they will benefit in increased turnover. The conditions in the country are satisfactory, and wholesalers are noting carefully the prospects so that stocks may be distributed without unnecessary handling. Forward deliveries booked are reported as very satisfactory. Trade in the suburban stores has been well up to expectations, and although weather conditions are unseasonable the trade shared very well in the distribution of goods for this time of the year. Manufacturers kept well to anticipated sales, and where heavy sheets and tin-plates are used a very satisfactory month was reported. The outlook for 1928 is good.

Christchurch, December 13, 1927.

With the approach of Christmas a feeling of optimism prevails in business circles. All the principal shops that cater for Christmas gifts are very busy indeed, and while there is certainly not so much money being spent as in more prosperous years, yet very satisfactory returns are reported by the managements. There is still a considerable amount of unemployment, but it is anticipated that the opening of the four freezing works in the vicinity of Christchurch will absorb most of it for a time. City business, hardware included, depends to a great extent on country interests, farming especially, and harvest prospects are consequently a matter of concern to all. This season Canterbury is assured

of a good crop to be gathered in a few weeks, although the yield is not likely to be as heavy as last year's exceptional return. A fortnight's good weather, however, should bring it well over the average. Prices are without change from last month.

Dunedin, December 14, 1927.

Notwithstanding the late quietness business at the present indicates a more improved condition, while a spirit of hopefulness prevails in trade circles. Additions are being made to the buildings in the main thoroughfare, while the offices of "The Otago Daily Times" and "The Evening Star" are approaching completion. Both are fine structures. The near approach of Christmas is reflected in the shop windows, seasonable goods being shown in great profusion. The recent annual summer show of the

NEW ZEALAND PRICES.

	Duty.	Auckland.	C'church Dec. 13	Dunedin. Dec. 14	Wellington Dec. 5
RON—					
Bar—		£	£	£	£
English ..	Free	21	22/	22/	22/
Shoeing ..		23	23/	23/	23/
Steel ..		15/10 to 21/-	20	22/	16/ to 22/
Pig ..		8	10/6	10/6	9/- to 10/-
Plate ..		21 10/	24/	25/	22/ to 24/
Hoop ..		24/ 35/	25/6, 37/6	32/	25/ and 35/
Sheet, Bk.					
to 20-g.		23 10/ 24 10/	25/6	26/	24/6 to 26 6
22 & 24 g.		25 10/	28/6	28/	26/6
Galv. Cor.—	2/-				
First ..		29	30/ Builders	30/	29/
Second ..		28	28/-	28/6	28/
Local ..		29			
Do., Plain	Free				
24 & 26 g.		31/ 32/	31/ 33/	35, 37, 39	26
Pipe—Galv.	Free	45%	47% off	42%	42% off
Black ..		50%	50% off	50% off	50% off
Wire—					
Galv'd ..		15/6, 18/-	18/	16/6	17/6 to 18/6
Black ..		16/-	17/	15/6	
Barbed ..		21, 23 10/	24/-	21/	22/ to 23/
Nails ..	2/4-c	20/6	22/6	21 10/ to 23	22
N. Z.		20/6			22
Lead—Pig	Free	30/6	33/-	45/	35
" Sheet		38 10,	38/-	45/	42/
" Shot	10/	75/	75/	80/	75/
Tin—Ingot	Free	3/-	3/2	3/2	3/4
" Plates		32/6, 48/6	40/	40/	37/6
Zinc—Sheet		7d. lb.	9d. lb.	8d.	8d
Quicksilver			6/6lb		
Cement—					
Imported	1/-cwt.		22/6 cask		
Local bag		5/8	7/-	6/-	5/11
Slates ..	Free				
P. of Paris ..	6/-cwt.	26/-	30/-	28/-	27/
White Lead					
Best ..		57/	55/	58/-	58/ to 60/
Second ..		56/			64
Blst. Powder	Free	1/8	1/9	1/7	1/8
Rope—	20%				
Manila, Star		111/	111/	111/	111/
" O ..		107/	107/	107/	107/
Flax, N.Z.		81/ 88/	88/	88/	88/
Co-nacks ..	Free				
44-in. ..				12/11	13/6
46-in. ..			14/9	13/3	13/9
48-in. ..		14/3	15/	12/10	14/
Woolpacks ..					
Full ..	Free	5/3	5/3	4/4	5/3
Oils—					
Lins'd, raw	6d.	5/3	N.Z.5/- Eng 5/3	5/6	5/8
Castor ..	Free	5/6		5/9	5/6
Colza ..		7/9	8/	8/-	7/9
Kerosene		13/9	14/9	14/6	13/9
Turpentine		6/6	7/-	6/-	6/6

Otago Agricultural and Pastoral Association turned out a disastrous failure owing to the vile weather which prevailed throughout the period of its fixture. For the two consecutive days the rain fell in torrents, while hurricane blasts of wind swept the grounds. The society is the loser by hundreds of pounds, while business firms experienced nothing of the flip usually imparted by this annual event. In regard to latest quotations, the only amendments to be recorded have to do with shoeing iron, which has been advanced from 20/- to 23/-; pig lead, which has declined from 48/- to 45/-; and kerosene, which has been advanced from 13/9 to 14/6.

Brisbane, December 22, 1927.

December opened very quietly in the hardware trade, but as the month advanced and the seasonal rains continued to cover drought-stricken areas business improved and has recovered wonderfully. Country inquiries have been particularly strong. Prospects for 1928 are now considered to be very good indeed. The waterside strike threatened to jeopardise a number of Christmas lines, but the calling off so promptly saved the situation to a great extent. Heavy hardware has been moving freely, and orders have been for improved quantities. Rod and bar iron have firmed a little, but otherwise prices are fairly steady, and stocks plentiful. Bulk lines have sold well, particularly in regard to country orders. Builders' supplies have been quiet, but it is expected that there will be a marked impetus immediately after the New Year. Stocks of all lines are well up to demand, and prices generally firm. Paints and oils are slow, and stocks are ample. Price of white lead is likely to move up before next report. Sanitary plumbing and accessories are keeping well up to the average, with stocks O.K. and prices unchanged. Shelf goods have been moving freely, but this is only to be expected at this time of the year. Aluminium and enamelled ware have also received a deal of attention, particularly from the country, and stocks are plentiful, with prices firm, but likely to be freely cut in the near future. Station supplies, including fencing wires, wire-netting, and barbed wire, have all been in strong demand. Stocks, although light earlier in the month, are now fairly good, and prices are unchanged. Farming implements have been selling freely, and firms handling this class of business have been having a busy time. Wheat sacks have also had a deal of attention, but have now eased off, as it is more than likely there will be a reduction in the estimated yield owing to the continued showers on the Darling Downs and Maranoa areas. Woolpacks are slow, and likely to continue so until about February next. Explosives have been in strong demand, but stocks are well in hand. Prices are likely to firm as from the first of January.

Adelaide, December 30, 1927.

Business during the last month of 1927 was, generally speaking, quite satisfactory, and a good demand was experienced for tools of trade and other shelf goods. Several shipments of galvanised tube arrived during the month, and several parcels in lots of 10 and 20,000 feet changed hands at 57½ per cent. and 2½ per cent. off the list. Carbide sales were good for this period of the year, prices being around the £31/10/- mark. Ingot tin is slightly easier, closing prices for the month being £270 per ton. Fencing steel and wires have been very quiet. A demand for high tensile wire was noticed for vineyard use, and sales were effected at £19/10/- and £20 per ton. Very good business was experienced by shopkeepers during the Christmas season, and although there is some uncertainty about the immediate future, the coming year is looked forward to with more optimism than has prevailed for some time.

Melbourne, January 4, 1928.

During the month of December general hardware moved out with a measure of satisfaction, but heavy goods had something in the nature of a slump. Galvanised pipe is offered at lower figures than last month, but the demand is rather quiet nevertheless. Although December is usually a slack month for fencing materials some fair parcels have been sold. In wire netting 42 x 1½ x 17 and 36 x 1½ x 18 have been reduced by distributors to the extent of £1 per mile, and fencing wire is also offered at 5/- less per ton. In anticipation of tariff changes, merchants have been disinclined to indent supplies from overseas, relying mostly on Australian manufacture. Supplies of cement are more than equal to the demand; the price is steady at 18/- per cask, and a better inquiry from the country serves to balance the reduced consumption in the city and suburbs. Galvanised iron is being sold at low rates on indent, and the demand for immediate delivery continues firm. Wire nails are offered at 17/6 in ton lots, but in expectation of higher rates by manufacturers most merchants are keeping their bins well filled. Meggitt's linseed oil has been reduced to 4/- per gallon for raw, with the usual extras for boiled and pale boiled. Just before the holidays merchants offered Plumb and Kelly axes at greatly reduced prices, but this did not attract the business looked for. Present prices are 87/6 for Plumb's white-handled, and 86/- for Kelly's, Collins', or Brades'. Shooting and sporting requisites generally moved out fairly well, merchants reporting a fair number of twenty-case orders for shotgun cartridges. A satisfactory call was experienced for harvesting tools; scythe blades were reduced in price early in the month. Glass jars have been moving so well that manufacturers found themselves hard pressed to overtake the demand. Rabbit traps are not in request, and the call for flywire was weaker than had been expected. Merchants do not view trade possibilities with much enthusiasm. Taken as a whole, the Christmas trade was poorer than last year. Money is still hard to come by, and cautious trading will probably be the order for the next few months.

The Month's Cablesgrams

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date.	Copper. Electrolytic. Per Ton.		Tin. Standard. Per Ton.		Silver. Standard. Per Ounce.	
	1926.	1927.	1926.	1927.	1926.	1927.
Nov. 30 ..	£	£	£ s. d.	£ s. d.	d.	d.
Dec. 3 ..	64-64½	63-63½	314 7 6	268 2 6	24½	26½
" 9 ..	64½-64¾	66½-67	307 2 6	267 17 6	25	26½
" 16 ..	64½-64¾	66½-67	307 12 6	267 8 9	24½	26½
" 23 ..	64½-64¾	66½-67	307 2 6	266 17 6	24½	26½
" 29 ..	65½-64	66½-67	301 12 6	265 2 6	25½	26½
Jan. 4 ..	63-63½	66½-67	301 5 0	258 17 6	24½	26½

The stocks of tin in the United Kingdom at the end of December were 14,862 tons, the deliveries for the month 2,992 tons, the quantity on spot 1,787 tons, and the quantity afloat 1,942 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—December 3, £22/17/6; December 9, £21/18/9; December 16, £22; December 23, £22/1/3; December 29, £22/7/6; January 4, £22/3/9.

For the month of November the imports of lead into Great Britain and Holland were 22,419 tons, including 8,289 tons from Australia. The exports were 1935 tons.

Spelter.—The spot quotations for spelter, as cabled from London, have run as follows:—December 3, £27; December 9, £26/7/6; December 16, £26 3/9; December 23, £26/3/9; December 29, £26/7/6; January 4, £26/3/9.

Tallow.—Following are the statistics for December and particulars of the latest auction sales:—

December	Casks.	Date	Casks Offered	Casks Sold.	Mutton, Med., per cwt.	Beef Med per cwt.
Imports	670	Dec. 7				
Deliveries	1268	" 14				
stock	2532	" 21	626	208	35/6	35/6
		" 28				
		Jan. 4	584	573	36/6	36/9

Cheques "Account Payee Only."

(From "Kemp's Mercantile Gazette.")

It is the duty of everyone drawing a banker's cheque to do so plainly, and to take such precautions as he can to ensure that payment for it is made to the person for whom the money is intended. For this reason, a man of business, in drawing his cheque, will make it payable to a named payee or order, and he will also cross it to that person's account if known, and if not, he will cross it "account payee only." This is all any drawer of a cheque can do to make sure that the money for which the cheque is drawn shall be paid to the payee he nominates. But, in the course of carrying on what has come to be our international business, many things may happen to such a cheque before it comes back to its original drawer. There may be fraud, or forgery, or failure, amongst the many people through whose hands it passes. Finally, his banker may pay over his money to some person quite other than the "payee only" that he had nominated. Then the question comes, can that banker be made liable to his customer on the ground of legal negligence, which involves the consideration of all the facts and the decided authorities.

That is what happened in the recent important business case of Importers Co. Ltd. v. Westminster Bank Ltd. ("Times," 8th March, 1927.) The plaintiffs were paper merchants in London, who, in their trading, bought large quantities of paper from manufacturers in Germany. In 1924, they appointed one Schultz as their buying agent in Germany. Their practice was to draw cheques for the sums owing to the various manufacturers, and send them to this agent to pay over. The cheque out of which this case arose was drawn by the plaintiffs upon their bankers, the National Provincial Bank Ltd., to the order of a manufacturer in Germany. It was crossed and marked by them "account payee only." When the agent Schultz received this cheque, he forged an endorsement in his disguised handwriting, adding his own name. He then paid it into his own bank at Dresden, who obtained the money on it from their London agents, who were the present defendants, and these collected the amount from the plaintiff's bank. Meanwhile, Schultz had become bankrupt, and the Dresden bank was insolvent. The plaintiffs, being still

liable to their German manufacturer, now sued the defendants for the amount of their cheque which they had received and converted, some £1900 odd.

The defendants put in several pleas besides their general denial. They said that Heilmanns, the Dresden bank, was their customer, for whom they had acted in good faith, and without negligence, in collecting this money which they had sent there in due course. They relied upon section 82 of the Bills of Exchange Act, 1882. They further pleaded, in the alternative, that the words, "account payee only," in the crossing of the cheque, were merely a direction to the receiving bank concerned, and did not in any way affect them as the collecting bank. It was argued for the plaintiffs that for a collecting banker to ignore endorsements, or markings on a cheque, as had been done by defendants, was negligence. It was also urged for the plaintiffs that, though bankers might do many things in banking practice as a matter of convenience, yet if they did not keep within the law, they did so at their peril. Emphasis was placed upon the point that the defendants, to gain the protection given by section 82 of the Act, should have paid attention to the plaintiffs' express instruction, by adding "account payee only" in their special crossing of this cheque. Nor could they justify their failure to do so by setting up a banking practice which had no legal validity.

The case was heard before Mr. Justice McKinnon, who quickly called upon counsel for the defendants. After reciting the facts as to the forgery of the endorsement by the defendants' agent, and the payment of the cheque into his own account at Heilmanns' Bank, Dresden, who sent it to the defendants' bank as their agents for collection in England, where it was cashed by them at the plaintiffs' bank, the judge pointed out that undoubtedly the defendants had become possessed of the plaintiffs' money. He now ruled that as to the words "account payee only," there was nothing in the plaintiffs' contention that they were a direction from the plaintiffs, nor in the point that they at least amounted to a notice which should have put the defendants upon inquiry. On the whole, he decided that there was no evidence at all to support the plaintiffs' suggestion of negligence by the defendants in their dealings with this cheque. Holding that it was clear the defendants' bank did receive payment of the proceeds of the cheque within the meaning of the Act, he held them entitled to rely upon section 82, and judgment would be entered for them with costs.

If You Work for a Man

If you work for a man, in Heaven's name work for him. If he pays you wages that supply your bread and butter, work for him, speak well of him, stand by him, and stand by the institution he represents. If put to a pinch, an ounce of loyalty is worth a pound of cleverness. If you must vilify, condemn and eternally disparage, why, then resign your position, and when you are on the outside, damn to your heart's content. But as long as you remain a part of the institution do not condemn it. If you do, you are loosening the tendrils that hold you to the institution, and when the first high wind comes along you will be uprooted and blown away, and will probably never know why.

ELBERT HUBBARD.

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney Dec. 28	Melbourne Jan. 4	Adelaide Dec. 30	Brisbane Dec. 22		Duty	Sydney Dec. 28	Melbourne Jan. 4	Adelaide Dec. 30	Brisbane Dec. 22
Pig Iron ...	20/ 40/	£	£	£	£	Zinc—	£	£	£	£	£
British ...	...	...	7 5/	7 10/	...	Sheet 9 to 18g (7 x 3 & 8 x 3)	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.
Swedish ...	...	...	...	...	...	Perforated	35%, 45%	4/9	7	...	5/6
Lithgow ...	7 10/	...	7 5/	...	...	Spekter	10%, 20%	32	...	54/	...
Newcastle ...	7 10/	...	7 5/	7 10/	...	" Elec. ....	...	30 1/10 to 37	41 10/ to 42	...	40/
Bar and Rod ...	44/ 120/	23 basis	English 21	21	24 basis	" Brazing	25%, 40%	1/9	1/5	...	1/9
Australian ...	...	...	18/6	17 10/	...	Bolts & Nuts—	...	75/ 59/	63/ 47/ 41/	...	...
Mild Steel ...	44/ 120/	19 10/ basis	19/ basis	18 10	18	Cuphead	35%, 50%	76/ 57/	61/ 46/ 39/	...	26/3 to 73/
Bar	...	19 10/	18	19	19	" 3"	...	70/ 54/	56/ 43/ 37/	...	...
Angles	...	21	18	20 10	20	" 4"	...	65/ 49/	52/ 39/ 35/	...	...
Tees	...	...	...	...	...	" 6"	...	61/ 47/	49/ 38/ 34/	...	...
Hoops ...	F., 10%	20 basis	19 basis	19 6	21/ basis	" 9"	...	59/ 45/	47/ 36/ 32/	...	...
Black	...	31/6 basis	35	33/6	31 10/	" 12"	...	6 10/	6 10/	...	5
Galv.	...	28	24 10/	28 15/	27 5/	Tanks, 400-gal.	Free	3 10/	3 15/	...	3
Galv. Corr. 24g.	20/ 60/	30/	26	27	28 15/	200-gal.	F., 10%	55 off list	55% off	58% off	List 45% off
Orb 26 g	...	...	...	...	...	Tubing—	...	...	60% off	60% off	35% off
" "	...	...	...	...	...	Black, up to 3"	...	...	55% off	48% off	35% off
Phoenix Cr.	20/ 60/	30/	26	28 15/	28 15/	" 3 1/2 & up to 3"	...	50	55% off	48% off	Less 5% off
Galv. Plain 24g.	...	...	26 5/	31 15/	29	Galv., up to 3"	...	40	37 1/2 off	37% off	25% off
Queen's Hd.	...	...	...	...	...	" 3 1/2 & up to 3"	...	...	10% on	...	15% on
Phoenix Cr.	...	...	25 15/	31 5/	28 15/	Steam, up to 3"	...	...	...	...	...
Fleur-de-lis	...	...	...	40	...	" 3 1/2 & up to 3"	...	...	...	...	...
Other	...	...	...	...	...	Wr'tght boil.	...	...	...	...	...
Sheet ...	F., 125/	26 basis	25 basis	26	26	Explosives—	F., 5%	1/-	10 1/2 d.	1/-	1/1
Black	...	B26, G34 5/	26 10/	19	19	Hall's C.C.	10%	10 1/2 d.	10 1/2 d.	11 1/2	1/1
Baldwins	...	...	...	...	...	Curtis's	...	10 1/2 d.	10 1/2 d.	11 1/2	1/1
Plate ...	F., 120/	18 basis	15 basis	15	15 10/	Chilworth's	15%, 25%	3/6, 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/
Steel	...	19-6	21	19	20-	Sporting	...	10/	8/ to 8/6	8/3 to 8/6	5/
Girder	...	...	...	...	...	Diam. S'less	...	8/6	7/ to 7/6	6/9 to 7/6	75/
Fencing Wire ...	F., 120/	18 5/	18 5/	...	...	Amberite	F. 5%	72/6	74/6	74/6	78/6
American 8	...	19 5/	19 5/	...	...	Blast'g Gel.	...	65/	66/	66/	71/-
Austra'n 8 Bl.	...	15 12/6	15	15 10/	15/10	Gel. Dyna.	...	56/ to 60/	56/ to 59/3	54/6 to 58/6	62/ to 65/
" 10	...	16 12/6	15 10/	16	16/10	Gelignite	...	51/ to 57	51/ to 57/	46/6 to 51/6	58/ to 102/
Galv.	...	17 17/6	18 0/	17 10/	18	Dynamite	15%, 25%	65/	55 to 60/	60/ to 85/	90/
" 10	...	18 17/6	19 5/	18	19	Detonators	5/ 6/	61/	61	75/	...
" 12	...	20 2/6	20 10/	20	20	Shot—Chilled	...	61/	56	...	1/6
Barbed Wire ...	68/ 180/	24	...	...	25 10/	Australian	...	1/4	1/6	5/8	9/
Amern. 12-g.	...	25 10/	...	...	26 10/	Cyanide Pot.	Free	7/6	5/	16/6	18/6
" 14-g.	...	24 10/	23 10/	24	25 10/	Quicksilver	Free	62/6	65/	60/	60
Austn. 12-g.	...	24 10/	24 10/	25	26 10/	Sash Weights	85%, 45%	15/	18/	21/-	21/ cask
" 13-g.	...	26	25 0/	26 10/	26 10/	Sheep Shears	F. 10%	25/ cask	18/	7/-	6/6 bag
" 14-g.	...	...	...	...	...	Cement—Imp't'd	20%, 30%	37/6 K.W.	35/	47/6	50/ cask
Wire Netting ...	F., 200/	...	...	...	...	Aust. (bags)	1/6, 2/c	Pixie 35/-	8/	9/3	18/ bag
36 x 1 1/2 x 17	per. ton	...	36 15/	28	...	Plaster, Imp.	...	...	...	...	...
36 x 1 1/2 x 18	...	...	29	50	New	Slates (20 x 10)	30%, 40%	...	...	...	...
42 x 1 1/2 x 17	...	...	49 10/	42	List	White Lead—	8/ 10/ or	63/	62/	70/-	67/
42 x 1 1/2 x 18	...	...	41 10/	33 10	...	Imported	25%, 30%	57/	56/	62/	62/
42 x 1 1/2 x 19	...	...	34	...	...	Australian	...	...	70 to 100	...	72/ to 80/
36 x 1 1/2 x 17	...	...	35	...	...	Zinc White	20%, 30%	...	...	...	Colonial 56.
36 x 1 1/2 x 18	...	...	28	...	...	Oils—	...	...	...	...	...
36 x 2 x 18	...	...	22 10/	23	...	Linseed (raw)	9d., 1.	R5/6	5/6	Drs., 5/9	5/6
36 x 2 x 19	...	...	20	20 15/	...	Imported	...	C4/8 D5/8	C., 4/	Drs., 5/6	4/10
Nails—	...	...	...	...	...	Australian	...	...	...	...	...
Horshoe	12/ 15/	Less 5%	to 1/1b.	1/ less 10%	List Price	Colza	6d., 8d.	...	6/-	...	7/9
Austn.	...	...	List	...	plus 5%	Burning	9d., 1/	C 6/6	6/3	6/9	...
Wire ...	5/6, 8/	28/6 basis	18/ to 20/	24/6 to 35/	30/- basis	Castor—	...	...	...	...	...
Austn.	or 25/ 85/	...	...	...	...	4-cases	...	...	...	...	...
Roofing—	5/6, 8/	65/- cwt.	65/cwt., 9/6	9/-	11/	China	2s., 2/6	...	8/6 to 10/	...	10/
Evenden	...	...	...	...	44/	Cotton seed	6d., 8d.	...	13/	...	...
Lead-head	...	...	...	...	...	Kero.—C.O.R.	Free	...	13/6 to 14/6	13/	12/6
Block Tin ...	Free	219 10/	280	270	3/	Laurel	...	13/	13/6 to 14/6	13/	12/6
Tin Plates,	F., 10%	112's 60/-	62/6	112's 52/6	27/	Light of Age	...	13/	13/6 to 14/6	13/	12/6
28 x 20—	...	35/-	70/	...	42.	Pennant	...	13/	13/6 to 14/6	13/	12/6
I.C. Coke	28 x 20	...	...	...	...	Turpentine	F.	5/-	4/9	5/9	6/6
I.X. Coke	56s	...	...	...	...	Substitutes	1d., 1d.	3/	18/ per case	2/9	2/6
Pig Lead ...	Free	25/6	25	32	37/10	Shellac	6d., 9d.	3/6	2/9	2/9	3/-
Austn.	...	...	...	...	...	Whiting—	...	...	...	...	...
Sheet Lead ...	10%, 20%	40/	50	43/6	49/	English	...	9/	9/-	9 10/	£12 ton lots
Dampcourse	...	4 1/2 6/6	48	...	...	Colonial	...	4/9	4/9	5/	...
2 lb.	...	4 1/2 9/9	47	...	...	Resin, G grade	Free	38/6	36/-	38/	37/6
3 lb.	...	...	...	...	...	Carbide—	80/ 150/	...	...	...	...
Lead Pipe—	10%, 20%	45/	47 10/	46 5/	59/	" I X L "	...	32/6	27/6	29 5/	29 7/6
3 to 2 1/2 in. coils	...	47/	52	48 15/	60/	Scandinavian	...	34/-	30/-	33 10/	33
Lengths to 5'	...	51/	51	48 10/	72/	Canadian	...	...	...	...	...
Compo. 1 1/2" & up	...	...	...	...	...	Japanese	...	...	...	...	...
Copper—	...	...	...	...	...	Bluestone	100/ 200/	37/6	38/-	...	40/
Ingots	...	70	78/	10d.	...	Macclesfield	...	36 (1 cwt c/s)	...	37/6	...
Sheet	25%, 40%	1/5 1/2	1/7	1/8	1/8	Australian	...	...	...	...	...
Brass ...	...	...	...	...	...	Japanese	...	...	...	...	...
Sheet	...	1/3	1/2 to 1/6	1/6	1/6	Stock, Tar, 42 g.	25%, 35%	...	1/5	60/-	...
Sheet	...	...	...	...	...	Woolpacks—	Free	...	...	...	...
Sheet	...	...	...	...	...	42 x 1 1/2	...	4/-	6/	5/9	...
Sheet	...	...	...	...	...	54 x 1 1/2	...	...	4/6	4/9	4/9
Sheet	...	...	...	...	...	Corn sacks	Free	9/6	12/6	11/6	10/9
Sheet	...	...	...	...	...	2 1/2 lbs. (Oats)	...	11/6	10/6	10/-	10/7
Sheet	...	...	...	...	...	Branbags	Free	...	...	...	...

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

Company News.

T. M. Goodall & Co. Ltd. announce that the name of the company has been changed to Goodall & Co. Ltd.

Bakewell Bros. Ltd. announce that the capital of the company has been reduced from £150,000 in 200,000 15/- shares to £50,000 in £1 shares.

Reslaw, Green & Co. Ltd. have lately removed from Hoffnung's Buildings, 163 Pitt-street, to Danks' Building, 324 Pitt-street, Sydney, where they have considerably larger showroom and office accommodation.

Hill, Magill Ltd. are being wound up voluntarily, a proposal to that end having been agreed to by the shareholders on December 14. Messrs. A. F. Lord and H. W. Magill are the liquidators. As previously intimated, the business has been sold to Keep, Macpherson Ltd.

Electricity Meter Mfg. Co. Ltd. have been registered with a capital of £300,000 in £1 shares. Objects: To acquire as from 1/3/27 the business and undertaking of Electricity Meter Mfg. Co. Ltd. (old company). Subscribers: William H. Cowan, James R. Hill, Karl E. Schulz, Neils P. Nielsen, George H. Brown, Cyril B. Brown, and John T. Fitz. Reg. office: Sydney.

New Zealand

Company News.

Hardware Supply Co. Ltd. have been registered with a capital of £2000 in £1 shares. Objects: To deal in hardware and incidental. Subscribers: P. D. Jones, N. R. Jones, A. W. Jones, W. R. Bazeley, A. H. Boulter, and L. J. Stevens.

Candy Fitters (N.Z.) Ltd. have been registered with a capital of £11,000 in £1 shares. Objects: Mechanical engineers, to deal in machinery, boiler-makers, etc., and incidental. Subscribers: E. R. Davis, O. Nicholson, C. Robinson, T. M. Davis, and D. E. Davis.

Yates' Cash Stores Ltd have been registered with a capital of £500 in £1 shares. Objects: To acquire and take over as a going concern the business of grocers and general storekeepers now carried on at Waipukurau under the style of Yates' Cash Stores, and incidental. Subscribers: F. Yates and Annie Yates. Office: Waipukurau.

Queensland

Firms Registered.

Armco Queensland Agency, merchants, Perry House, Brisbane; proprietors: Perry Bros. Ltd.

J. Purvis & Son, hardware dealers and grocers, Southport; proprietor: Joseph Purvis.

Shepherd's Anvil Stores Ltd. succeed Daniel Shepherd & Sons Ltd., of the Anvil Stores, at Mackay. Founded by the late Mr. Daniel Shepherd in 1873, the business has been continued ever since. In 1896 the founder took into partnership his son, Mr. J. C. Shepherd, and his son-in-law, Mr. Charles Davie. Six years later the company of Daniel Shepherd & Sons Ltd. was formed to acquire and continue the business with these three as the board of directors.

The founder died in 1913, and his widow at the end of 1926. Then by the provisions of Mr. Shepherd's will his estate had to be wound up. Hence the reconstruction of the company. Mr. Charles Davie is the managing director.

South Australia

Keipert & Co., ironfounders, Laura, announce that Esther Louisa Keipert has retired, and Emily Beatrice Keipert has become a member of the firm.

Universal Hardware Stores, general hardware dealers, Port Road, Woodville, have been registered under the Firms Act; proprietress: Beatrice Hilda Loveless.

Dux Electric Heaters (S.A.) Ltd. have been registered with a capital of £45,000 in £1 shares. Objects: To purchase or otherwise acquire from Dux Electric Heaters (World's Rights) Ltd. an exclusive licence for South Australia to manufacture and deal in electrical water-heating devices and apparatus, and also a licence to use for the same territory certain registered designs for Dux Electric Water Heaters, and to adopt a certain agreement, etc. Subscribers: Ernest Charles Steere, Edgar Stanley Bonham, Eric Desmond Johnson, Marjorie Sarah Adams, and Gilbert Macpherson Johnstone. Reg. office: 150 North Terrace, Adelaide.

Tasmania

Australian Commonwealth Carbide Co. Ltd. have been registered with a capital of £200,000 in 180,000 £1 and 400,000 1/- shares. Reg. office: London, England.

Victoria

A. Lugton & Sons, engineers, blacksmiths and boiler-makers, 27, 29 and 31 Little Lonsdale-street, Melbourne, announce that Charles Edward Lugton has retired by death.

Metters Bros., oven and stove manufacturers, Bunce-street, North Melbourne, announce that John William Metters has retired and that Harry Reed and John Gee have become members of the firm.

Firms Registered.

Emry's Stores, hardware merchants, Wyndham-street, Shepparton; proprietors: Alfred Thomas Emry, Alfred Churchill Emry, and Robert Redvers Emry.

The Anchor Wire Works, manufacturers of all classes of wire goods, 1 and 3 Anchor-place, Prahran; proprietors: Stanley Francis Higgins and William Leslie Harper.

Company News.

Paul & Gray Ltd., ship chandlers, have removed to 529-531 Flinders-street, Melbourne.

Rosenfeld, Hillas & Co. Ltd. announce that the name of the company has been changed to S. D. Hillas & Co. Pty. Ltd.

McEwan's Ltd., ironmongers, hardware merchants, etc., have been registered with a capital of £250,000 in £1 shares. Subscribers: Thomas James Luxton, Gertrude Luxton, Harold Daniel Luxton, Doris Mary Luxton, and Francis Plumley Derham.

Vickers' Australia Pty. Ltd., ironmasters, steel-makers, etc., have been registered with a capital of £100,000 in £1 shares. Subscribers: Keith Macpherson Smith and Robert Wilson Knox.

J. Stratmann Pty. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business of lock manufacturer and electroplater carried on by Joseph Stratmann at Brien-lane, Melbourne. Subscribers: Joseph Stratmann and Annie Evelyn Stratmann.

Metters, K.F.B., Pty. Ltd., iron and steel foundries, electrical and general engineers, etc., have been registered with a capital of £100,000 in £1 shares. Subscribers: Henry Langdon Spring and Norman Harrie Bendon Keysor. Robert Alexander Spring and Joseph Pater Wiatt are also directors. Reg. office: Gordon-street, Footscray.

Middleton & Morris Pty. Ltd. have been registered with a capital of £15,000 in £1 shares. Objects: To acquire as a going concern the business of general engineers carried on under the style of Middleton & Morris. Subscribers: William Henry Middleton and Frank Valentine Mitchell Middleton. Reg. office: 416 Sturt-street, Ballarat.

Roy Burton & Co. Pty. Ltd., ironfounders, machinery merchants, etc., have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business carried on by Roy Burton. Subscribers: Roy Burton and Henry Tunstall Eggington. Ella Bay Burton is also a director. Reg. office: 567 Little Bourke-street, Melbourne.

Western Australia

Great Western Implements & Agencies Ltd. have issued a prospectus. The nominal capital is £50,000 in £1 shares.

Mr. J. Jones, ironmonger, 41 Market-street, Fremantle, on account of ill-health, recently advertised his business for sale.

Maylands Engineering Works, engineers, Eighth-avenue, Maylands, have been registered under the Firms Act; proprietor: William James Blanch.

Travellers

In New South Wales.

Mr. C. Deutgen, of Grotjan & Co., Melbourne, is journeying northwards early in the new year with large ranges of Bleckmann cutlery and hardware and of Jaekle brassware. From about January 23 to February 29 he will be at Macdonell House, 321 Pitt-street, Sydney; from March 1 to 3 in Newcastle; and from March 5 to 30 at King House, Queen-street, Brisbane.

In Victoria.

Mr. Leslie J. Pain, 209a Castlereagh-street, Sydney, leaves for Melbourne, Adelaide and Perth on January 14 with a full range of samples on behalf of his several principals. The trip will extend over two months, and inquiries may be addressed to him at the Commercial Travellers' Club in each centre.

From Europe.

Mr. Howard F. Hudson, of 352 Kent-street, Sydney, returned by the R.M.S. "Aorangi" on December 9 from one of his periodical visits to his principals. With some of these he has arranged for certain alterations to goods to bring them into line with present local requirements, and he has also arranged for new ranges of samples to arrive in January. During his tour Mr. Hudson visited some of the important business centres on the Continent, and also in America on the return journey.

Mr. H. B. Ive, senr., who was granted leave of absence for six months by his firm, Noyes Bros. (Sydney) Ltd., has returned from a trip abroad, during which time he visited the leading industrial centres of Great Britain and several on the Continent. He reports that the electrical and radio industries in the United Kingdom are in an active state of development, and that very good business is being done despite Continental competition.

Agents and Agencies

Mr. Louis A. Scott, of Danks Building, 324 Pitt-street, Sydney, has been appointed Australian agent for the "Gotta" brand razors made in Germany. These razors, which are offered in $\frac{1}{2}$, $\frac{3}{8}$, and $\frac{1}{4}$ in. blades, as well as safety blades to fit all standard holders, are processed from a fine tempered silver steel, which, the makers claim, is executed by hand. They are excellently finished, both blade and handle, and each razor carries a separate guarantee from the manufacturers.

Mr. Leslie J. Pain, of Bathurst House, 209a Castlereagh-street, Sydney, who has been absent for seven months on a visit to England and the Continent, has returned by way of the United States and Canada with the following agencies:—

De Svenska Kristallglasbruken A/B, Sweden (crystal glassware).

The Tower Manufacturing Co. Ltd., Worcester (nails, pins, rivets and staples).

A. Collier & Co., London (plumbers' tools).

The Staffordshire Edge Tool Co., Dudley (hammers, etc.).

Pinson & Evans Ltd., Wolverhampton (tinned and enamelled hollowware).

India Agencies Ltd., Hamburg (balata belting).

William Hallett, Birmingham (machine-made brass butts).

King and Barrett, Burslem (teapots).

All these agencies cover Australian and New Zealand, while for New South Wales, Victoria and Tasmania Mr. Pain has been appointed representative for the Midland Metal Spinning Co. Ltd., Wolverhampton (aluminium ware).

Ryall & Brock, who have showrooms in Hardware House, 386 Post Office Place, Melbourne, hold the following agencies:—

G. B. Kent & Sons Ltd.—Brushware. (Victoria only.)

James Potts & Son Ltd., Old Hill, Staffordshire.—Shovels, spades and forks.

Hartley's Malleable Fitting Co. Ltd., Halifax.—Malleable castings and fittings. (Victoria, South Australia and Tasmania.)

Albion Clay Co. Ltd., Woodville, near Burton-on-Trent.—Domestic and ornamental pottery ware. (All Australia.)

T. L. Grosvenor, Wolverhampton.—Rabbit and other animal traps. (Victoria, South Australia and Tasmania.)

Humphrey & J. Fox, Willenhall. — Locks and latches. (Australia.)

Bennett & Heron, Sheffield.—Cutlery. (Australia.)

Keystone Manufacturing Co., New York. — Mechanics' Tools. (Australia.)

American Stamping Co., Battle Creek, Mich., U.S.A.—Pressed steel grease cups. (Australia.)

British Music Strings Ltd., London.—Tennis gut, and strings. (Victoria, South Australia and Tasmania.)

H. J. Gray & Sons Ltd., Cambridge, England.—Tennis racquets. (Australia.)

Ashaway Line & Twine Manufacturing Co., Ashaway, R.I., U.S.A.—Fishing lines and silk (Australia.)

Ben Warsop & Sons Ltd., Marylebone, London.—Cricket bats and stumps. (Victoria and Tasmania.)

Machinery

Small Tools.

The American Swiss File & Tool Co., of Elizabeth, N.J., U.S.A., recently took over and are manufacturing the line of small tools formerly made by the Braunsdorf-Meuller Co., of Elizabeth.

The line includes knurl sets and holders, plumb bobs, cold chisels of all kinds, stone drills, socket wrenches, bearing scrapers, several styles of punches, and a wide range of other small tools.

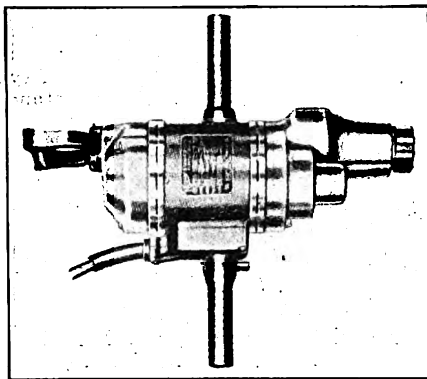
New Wrench Set.

The Husky Wrench Co., of Milwaukee, Wis., U.S.A., are marketing a new wrench set—the No. 190 utility. It comprises a complete range of socket wrenches, three socket screwdrivers, three sizes of screwdriver bits, and a special screwdriver handle with swivel grips. The set is packed in a compact, black-enamelled metal box.

All units are heat-treated and nickel-plated. The set is intended for automotive and industrial purposes.

Universal Electric Drill.

The Hisey-Wolf Machine Co., of Cincinnati, Ohio, U.S.A., are now offering a new standard-duty $\frac{3}{8}$ in.



universal electric drill. It is equipped with this company's own standard design and manufacture motor.

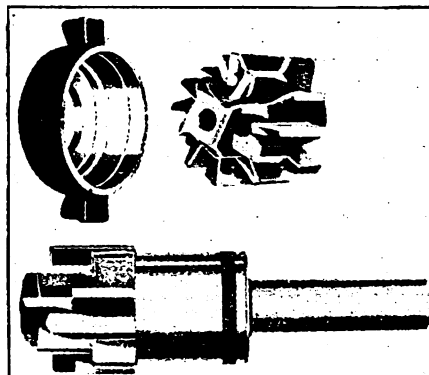
The motor is mounted on ball-bearings fitted in such a way as to eliminate the slip and creeping action said to be detrimental to the motor and other mechanical parts. The gear of the armature shaft is removable. All gears are made of heat-treated steel, and are so proportioned as to give maximum strength and smooth operation. The compound gear shaft is supported with bearings at each end.

The drill spindle is of liberal dimensions, hardened and ground, and is automatically lubricated through the gear case. It is fitted with a No. 3 Morse taper socket.

In order to provide brush adjustment when necessary the brush holders with adjustable spring tension are mounted as a separate unit on a bakelite yoke. The brushes are accessible by removal of the end handle cover, which is a rugged casting carrying all pressure applied on the drill independent of the motor and motor bearing. The Hisey patented switch is standard equipment. The drill weighs 25 lb.

Multidiameter Cutter.

The Eclipse Counterbore Co., of Detroit, Mich., U.S.A., are manufacturing a special line of multidiameter, a multiple operation, cutters designed to bore or face from two to eight surfaces at the one time.



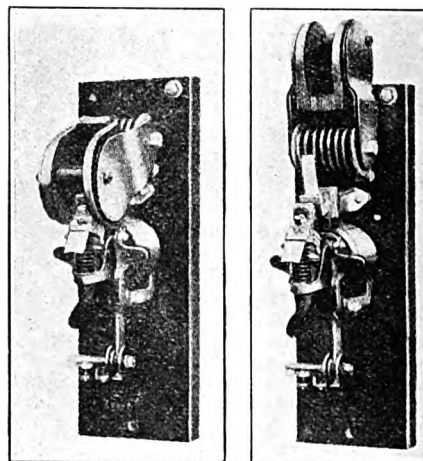
The design of the cutter enables it to be sharpened without losing its form, thus making it possible to machine the various faces at one operation without re-setting. The tool is intended for production work on boring, facing and chamfering, and can be specially made to accommodate a wide variety of work.

Improved D.C. Mill-type Contactor.

The Cutler-Hammer Manufacturing Co., of Milwaukee, Wis., U.S.A., have equipped their d.c. mill contactor with an improved design of magnetic blowout.

The design was perfected after considerable experiment in determining the effect of the shape and material used in contacts themselves, the shape and material of the arcing tips, the location and intensity of the magnetic blowouts, and the material used for the blowout shields.

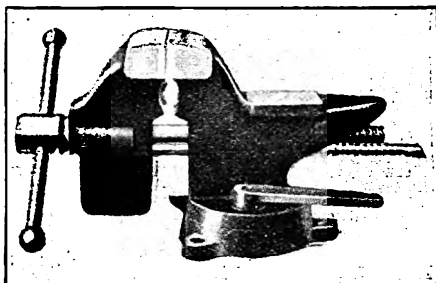
In actual test a 500 amp. butt-contactor made and broke a 600 amp. 250 volt circuit, an average of 263,000 operations for each contact set.



The improved design is said to reduce maintenance and inspection costs, as the contact and blowout shields need not be renewed as frequently as before.

New Vyce.

The Simplex Tool Co., of Woonsocket, R.I., U.S.A., have placed on the market the vyce seen in the illustration. Known as the No. 3½ utility swivel vyce, the unit also combines a pipe vyce and anvil. The jaws are 3½ in. wide and have hardened steel insets which are easily removable. The anvil is provided with a horn for particular use with round pieces or rings and hoops.

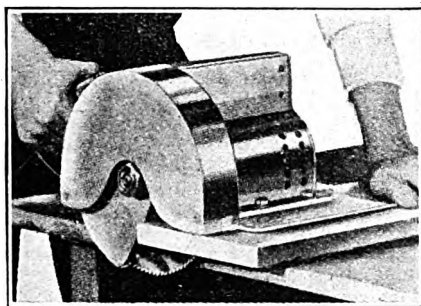


The movable jaw is actuated by a special steel square thread screw. The slide is made of steel and is said to be unbreakable. It is accurately fitted, and no wobble takes place. The swivel base design enables the vyce to be locked in any position.

The maximum opening of the jaw is 4½ in., and the weight of the unit is 18 lb.

Portable Electric Saw.

The Lee Pattern Co., of 130 13th-street, Milwaukee, Wis., U.S.A., are the makers of a portable electric saw that will cut wood up to 1 in. in thickness. One of the chief claims for this machine is its light weight—only 6 lb.



It is primarily a one-handed saw, enabling the operator to hold the work with the other hand. Owing to its shape, it can be laid down on any of its four sides without toppling over. All parts are made from stampings, thus lowering its cost.

The saw is equipped with an automatic guard said to insure safety at all times. This guard can be changed to permit the use of the tool by a left-handed operator. A patent ridge is provided for gripping the machine in a vyce so that it can be used as an ordinary bench saw at any time.

Drilling Stand.

The Hisey-Wolf Machine Co., of Cincinnati, Ohio, U.S.A., are responsible for a new drilling stand, obtainable for either post, wall or bench mounting types.

These stands are made for all sizes of Hisey electric drills from ¼ to ¾ in. capacity. They are designed to permit the portable drills to be attached without moving any part of the machine. This feature is claimed to be a great time-saver and a protection against loss of parts. The supporting bracket and drill housing are machined at both ends to ensure perfect alignment of the drill in the stand.

Lifting Magnet.

The Electric Controller & Manufacturing Co., of Cleveland, Ohio, U.S.A., are producing a lifting magnet known as the type S.A.

A coil spider of composite construction, with a body of cast steel and a flange of cold-rolled brass, provides greater strength and better lifting capacity as compared with the one-piece cast-brass spider. The outer pole shoe has also been extended upwards to fit against a machined surface on the outside of the magnet housing, giving greater strength to prevent pole shoe breakage.

A steel plate ½ in. thick is bolted at the top of the magnet to prevent injury to the incoming lead wires from the crane hook and chains. This type of magnet is claimed to out-lift and out-live all previous designs.

Saw With Pipe Cutting Device.

A rotating device for cutting pipe up to 8 in. diameter has been applied to the No. 1B high-speed metal saw, made by the Hunter Saw and Machine Co., of Pittsburgh, Pa., U.S.A.

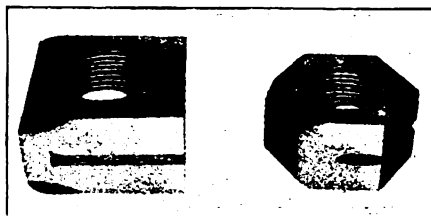
The device is driven by the pulley on the motor that drives the saw, and controlled through its rotation by a clutch on the left side of the machine that is thrown into action by the saw frame when pulled down into the cutting position.

The machine retains the features of this company's standard high-speed saws. The circular saw is driven by an endless belt from the 10 h.p. motor keyed to the base to insure proper alignment of the pulleys. A hand-wheel is provided for belt adjustment. Both belt and saw have steel safety guards. Two saw blades and necessary wrenches are supplied.

Self-locking Nuts.

The National Nut & Bolt Co., of North-Eastern Mass., U.S.A., have placed on the market a type of self-locking nut that is claimed to withstand any amount of vibration without working loose.

Known as the "Chapnut," it is made in all sizes from ¼ to ¾ in., in both square and hexagon styles, and may be furnished black, polished, nickelled, galvanised or case-hardened. Larger sizes will be produced.



The nuts are made of specially selected steel. To make the square nut a piece of stock is folded over, leaving a space between the two leaves equal to about one-eighth of the thickness of the nut. The hexagon nut is made in much the same way, the sides of the stock being notched before cutting the stock to permit the blank to assume the desired shape.

The operations of notching, cutting and folding are performed simultaneously in a progressive die, which also swages the blank in the direction of the fold to make the distance across the flats uniform. Following operations, swage the blanks in the remaining one or two dimensions as the case may be. The blanks are then drilled and tapped.

The final operation upon the nut is to strike it under a small press to effect a partial closing of the gap. This results in a mis-alignment of the two parts of the tapped hole, which cause a tension when the nut is screwed upon a bolt that effectively counters any tendency for the nut to back off the bolt.

Motor Accessories, Including Tools

Buyers' Notes for Retail Dealers

Sydney

William Adams & Co. Ltd., of King and Clarence streets, Sydney, are sole agents in Australia for "Sternol" motor cylinder oils and greases. Refined by Stearns Ltd., London, these oils are supplied in grades to suit all purposes and are packed in one and four gallon lithographed tins and in steel drums containing forty-five gallons. Heavy and liquid "Ambroleum" and "Ambrolyte" are high grade greases, manufactured by the same firm, and are supplied in four and eight lb. lithographed tins, and forty lb. plain tins, with the exception of liquid "Ambroleum." This is put up in one and four gallon lithographed tins and in steel drums containing approximately forty-five gallons.

Heavy "Ambroleum" and "Ambrolyte" can be used both for the gear box and differential and also for the lubrication of the chassis, and liquid "Ambroleum" is put up specially to meet the demand for a grease that will pour.

William Atkins Ltd., of 449 Kent-street, Sydney, are showing the Manning speed grits for motor-car painting and finishing. Papers are made to meet all requirements of the garage, for rough work, for lacquer, dry sanding and water sanding, for surfacing old paint coats and many other purposes.

Bennett & Wood Ltd., of 284 Pitt-street, Sydney, are showing the "Hexdees" new type shock absorber, the spring action being controlled within the spring itself, providing interleaf friction and control for both down thrust and jolt without impairing the normal action of the spring. It can be easily attached, does not need lubricating, and dirt and dust do not interfere with the action.

The "Anti-Rattler," for motor car doors, is a simple device to fasten to the door jamb and silence rattling doors.

Robert Bosch Supply & Service Co. Ltd., of 249 Elizabeth-street, Sydney, claim for the "Bosch" windscreen wiper that it gives easy running and that the consumption of current is trifling. The device maintains a constant swing and gives single or double contact. It can be either hand or automatically operated.

R. N. Bubb Ltd., of 4-6 Wentworth-avenue, Sydney, staged the "Enots" jack, a device that weighs only 6½ lb. and is capable of lifting a chassis up to two tons. The instrument is 7½ in. high by 4½ in. at the widest part, and the lift is 5 in., with an extension of 4 in. The lifting rod is moved with the thumb and forefinger.

The Stevenson jacking system lifts the car off two wheels. It is composed of two jacks attached one on each side to the chassis, not to the footboard. By the turning of the operating lever each jack raises both wheels on its own side. The operating lever is detachable, and is carried in the tool box when not in use. The jacks can be obtained with various lengths of "lifts" to suit different makes of cars, and the operating shaft and its housing is supplied in any length to suit the varying width of running boards.

William Easy Ltd., of 38 Wentworth-avenue, Sydney, make a feature of the "Simplex" air filter, an

Australian invention. It is made in seven sizes for motor cars and stationary engines. The device consists of a steel wire frame, covered with a piece of specially prepared felt. The frame has an aluminium lid, and there is an outside shell of specially stamped metal. The thick felt washers ensure dust-proof connection between the filter and its shell. Within is a dust-proof, airtight, flexible steel hose. It is surprising to see the amount of dust and grit collected in the filter after a few weeks' service, and it is said that the use of the filter will largely extend the working life of the engine.

The Egarsol Glareless Reflector Co. Ltd., of "Daily Telegraph" Buildings, King-street, Sydney, are showing the "Egarsol" glareless reflector, the chief features of which are that illumination is given 250 yards ahead, and there is a total side spread of 40 yards. The light is thrown to a height of 50 ft., and the light comes within 4 in. of the front wheels. The absence of glare is a point upon which stress is laid. The reflector consists of several highly polished silver surfaces in a symmetrical layout, arranged in definite formation, and capable of intense reflection without glare. This is secured by studied inclination and displacement controlling the primary rays of the diverged beam, and these silver surfaces are contrasted by a studied design in granulated oxidised silver, and give a brilliant shadowless carpet of light with absence of glare. The reflectors can be fixed to lamps without the aid of outside assistance.

V. H. Evans Ltd., of 157-59 Castlereagh-street, Sydney, are featuring the "Evans" patent sun visor, the chief advantages claimed for which are that by protecting the eyes from the direct rays of the sun it makes driving safer, prevents eye-strain, and improves the appearance of the car. The visor is fitted with green glass as standard, though blue, smoked, or amber glass can also be supplied. The frame construction is patented, and the component parts are fitted solidly together without welds or rivets. The tubular back prevents the glass from breaking by vibration. A special visor with suitable fittings is made for every car, and when ordering it is necessary to state the make and model of the car.

W. S. Friend & Co., of 113 York-street, Sydney, supply tortoiseshell rimmed shaded glasses with gauze sides. Made of nickel, the "A.A.A." petrol saver is said to pay for itself in a short time, and is a real economy device.

The "Gloaming" petrol filer is a handy article for the garage or roadside, and the sales have been exceptionally good. A lifting jack, the Duff, is self-lowering, and is operated by a handle which can be shortened and lengthened with ease.

Useful on the road is the "Quick Cure" rubber, in sheets ½ and 1 ft. square, to be used with the "Tourist" outfits in repairing damaged tyres. The "Bulldog Grip" outfit is another useful set for repairing tyres. Two sizes are available.

C. M. Glynn Ltd., of 14 Wentworth-avenue, Sydney, are showing the Bradbury wheel pullers. It is said that the use of these pullers does away with the necessity of using drawbars of different lengths in order to vary the length of the pull. The device

is simple. Cross beams and chains worked on the ratchet principle provide an instantaneous adjustment for any length or width of pull. Motor car wheels, pulleys, gears, and flywheels may be quickly removed. The puller is sold with two or three arm cross beams.

Hislop Lloyd Ltd., of 353 Pitt-street, Sydney, are N.S.W. agents for the "Weed Levelizer," the name given to a new pattern shock absorber. The apparatus is devised on the Weed floating drum principle. Instead of fabric it has a steel cable, which is said to give greater resistance, and affords easy riding on rough roads or on smooth boulevards. Once fitted on the car the shock absorber does not require oiling.

The "June" lubricator, an Australian device manufactured in Sydney by Baker & Burn Ltd., is distributed by this firm throughout New South Wales. It has been devised for the purpose of reaching those parts of the internal combustion engine which have hitherto not been lubricated. The upper portions of the cylinder have been neglected in the matter of lubrication in order that the oil might not interfere with ignition and cause excessive carbon deposits. The new lubricator utilises the suction of the engine to draw a small quantity of special oil into the intake manifold in the form of saturated atmosphere, which mixes with the gases from the carburettor and is conveyed to the combustion chamber. The effect of this is to thoroughly lubricate the valve stems, upper cylinder walls and adjacent parts. The result is that the engine is given greater pulling power, and runs silently, while there is less wear on the pistons and cylinder walls, and the valves do not require attention.

Keep Macpherson Ltd., of 252 George-street, Sydney, have in stock the "Protecto" eye shield, in the shape of a pair of eyeglasses, with a horn frame. The upper portion of the eye rims enclose green celluloid shades, convex shape, the lower portion being open. Thus the eyes are protected from the glare of headlights or the sun without obscuring the vision.

Another useful article is the "Autoreelite" portable spotlight. The lamp can be easily attached to any make of car, no special tools being required, and an automatic reel, 12 ft. long, enables the lamp to be taken to the rear or any part of the car.

The "Shaler" vulcaniser is a handy little contrivance, by the use of which tubes can be repaired on the roadside in five minutes. Patches and all other things necessary are supplied with the equipment, which may also be used for repairing hot-water bags or any other rubber goods.

A number of luggage carriers are being shown. The "Pratt" has three steel bars, which hold the packages securely, and the carrier lies flat when not in use. The "Perfect" carrier is clamped above the running-board, there being no danger of the clamps being knocked off by obstacles on the road. The "Disappearing" carrier folds along the edge of the running-board when not in use, and is practically invisible. Extended it makes a sturdy carrier, and is neat in appearance.

David Moseley & Sons Ltd., of 105 Bathurst-street, Sydney, hold a wide selection of rubber goods, including tyres and patent pneumatic cushions, which bear the name of "Float-on-Air." Foot muffs are lined with goat's hair, with inflated base, ensuring warmth and freedom from vibration. Pneumatic footboards and footrests are on metal frames, and fixing plates with slots. They are easily attached.

Pillion seats and cushions are made with wooden base and fitted with adjustable metal fastening. The

handle gives the passenger a secure hold, and thus saves the driver from being interfered with. The inflation can be adjusted to the weight of the passenger. The "Tummy Rests" are designed for racing. They are strapped to the tank, and are made in a variety of shapes and to fit different makes of motor cycles.

G. P. Pooley Ltd., of 143-45 Castlereagh-street, Sydney, are distributing the Protex-A motor, or gasoline purifier. Automotive authorities declare that an unsuspected cause of engine trouble is dirt and water in the gasoline, even in small quantities. These impurities prevent easy starting, and the motor misses fire and stops. This invention purifies the gas before it reaches the vacuum tank. The gas flowing into the apparatus comes in contact with the deflector, which breaks up the heavier-than-water particles. These, with other heavy impurities, sink into the sump with the force of gravity and the gas passes into the separating chamber, where it is strained through a fine screen. Aided by the angle on which it is set and gravity, the screen stops large impurities and lint. The gas is next filtered through a chamois, aided by angle and gravity, and the gas is freed from the finest impurities. The device can be installed in 15 minutes, and is easily drained by the removal of the drain plug from the bottom of the visible plug.

The "Fox Junior" tyre lock is a convenient protection for the spare tyre, and does away with the need for chains and padlocks. It fits the carriers of most popular makes of tyres. A special nickel steel hardened locking pin automatically fits into the body of the lock and effectively prevents the removal of the tyre from the carrier.

The "Ace" hot spark dry battery used in old Fords is still in demand, and may be used for a variety of other purposes. It will carry a large light, and may be used in connection with the installation of door bells.

Smith, Sons & Rees Ltd., of 30-32 Wentworth-avenue, Sydney, are distributing the "Galometer" liquid fuel consumption meter. It is claimed that if the instrument is used with the specially designed "Autovac" vacuum fuel feed apparatus the galometer automatically and accurately records the fuel consumption in gallons and fractions. Two records are kept, the total consumption counter registering to 999.99 gallons and the trip counter recording 9.99 gallons. The latter can be reset to zero as required. A check is kept on general running conditions, and any increase in consumption due to leaks, engine defects, or faults which impair the efficiency of the engine is brought to notice. Another useful feature is that the extreme right-hand space on each counter shows a figure and a red shutter alternately. If the red shutter shows continuously instead of alternating with figures, an empty tank or a choked petrol pipe is indicated. The apparatus is made by the Autovac Manufacturing Co., Ltd., Stockport, England.

Another useful device is the Tapley gradient meter, made by Tapley & Co., Tatton, Southampton, England. Instead of the well-known moving pointer type of instrument made by the same firm, a revolving scale meter has been designed. Readings down to 1 in 100 are marked, and a variation of even 1 in 400 is easily seen. Bold, clear figures are used, and a casual glance is sufficient to take the reading. Motorists should appreciate the value of having such accurate information regarding the gradient available continuously.

Mr. H. F. Stanton, of 2-10 Parramatta-road, Petersham, Sydney, is the manufacturer and dis-

tributor of the "Nu-baa" bumper bars and bumperettes. These are made to meet the requirements of any make of car, and either plated in nickel on copper or stove-enamelled in any colour. Although light in construction, the bars retain their strength, the springs giving a resiliency which prevents any ordinary bump from causing damage to the chassis. Being round in form and nickelled they do not hold road mud and moisture, and are easily cleaned. Their lightness imposes less strain on the chassis than do heavier makes.

Storey Bros. Ltd., of Crown-street, Glebe, Sydney, are showing the "Storey" shock absorbers, which are said to control the rebound of the car by a scientific combination of two forces—friction and coil spring. It is claimed that with the use of these shock absorbers the car will ride over the roughest road without jar or jolt. The belt of water-proof heavy woven fabric of cotton and asbestos has been tested up to 3000 lb. tension without signs of failure. The "Storey" super hydraulic shock absorber absorbs shocks by a cushion of oil. The car rebound is controlled exactly in proportion to the size of the bump or rut, and the bigger the bump the harder the pull by the absorber. Once fitted the absorber requires no adjustment or attention. A new design in spring steel bumperettes and combination luggage carriers are shown. They have nickel arms and Duco-finished rods, and are made in a variety of designs and sizes. "Storey" steel bumper bars are shown in wide range.

Swans Ltd., who expect to be installed in their new premises at 411 Elizabeth-street, Sydney, early in January, are the Australasian agents for the "Air Maze," an improved device for filtering air in industrial work. The attachment is said to set up a minimum vacuum ahead of the carburettor. It is small and compact, and fits into any make of car. There are no moving parts, and no attention is required once it is installed. The exclusion of the dust particles helps to prolong the life of the wearing parts of the engine and to give increased power.

Vicars, Gant Ltd., of Wingello House, Angel-place, Sydney, are showing the "Oilfilter," a device for cleaning the oil as the motor runs. Instead of woven fabrics of different kinds as hitherto used to filter the oil, the manufacturers have secured a material from celluloid products that is claimed to filter the oil as efficiently as filter paper cleanses lighter liquids. The filter is made by rolling the filtering material into a cylindrical form with a binding every twenty layers, and is encased in a metal retainer. The device is designed with a settling chamber, and drain plug in the bottom, so that the filter can be relieved of the accumulation of foreign matter it has collected after 2000 miles of ordinary driving. The apparatus will operate on cars having low-pressure oiling systems as well as on cars with high-pressure systems.

The "Thordarson" primax ignition transformer for motor car engines has been designed to take the place of the ignition coil. Said to be indestructible, the transformer is guaranteed to last the lifetime of the car in which it is installed, provided that the wiring and mounting are properly done and that the transformer is not altered outside the factory.

The "Handy" air cleaner is standard equipment on prominent cars, and can be installed on any make. It may be used on cars, trucks, or power plants, and will prevent dirt and grit from entering the engine.

In every accident to a motor car one of the greatest dangers to the occupants is the flying

pieces of windscreen, or broken glass. "Triplex," a patented glass, has been available in England for some years, and British-made cars in Australia have been fitted with it. Goggles made of the same material have been in use here, but it is not yet widely known. The glass will crack under a heavy blow, but will not fly into fragments. This is due to its construction—two sheets of ordinary glass with a sheet of celluloid between.

Wescott, Hazell & Co. Ltd., of 245 Castlereagh-street, Sydney, are distributors of the "Sioux" valve tools. By the use of the roughing reamer a more accurate job can be got on the valve seat. The valve seat reamer set is of the universal type, and will handle 90 per cent. of all motors. It is supplied in a metal box with nine pieces. The standard size valve stem guide reamer has been specially made to meet the demand for a thorough and efficient method for truing new valve guides that are sprung while being installed without increasing the size of the holes. The range includes grinding machines, grinding attachments, shafts and attachments, and every possible tool or device used in a garage.

John While & Sons Ltd., of 65-67 Crystal-street, Petersham, Sydney, have put on the market the "Absoklean" air filter and power equaliser. The suction stroke of the motor draws the dust-laden air slowly through the specially designed aluminium cover, the larger and heavier particles of dirt are separated and fall down into the tray, while the finer dust strikes against the vibrating gauze vanes and is separated and shaken into the filter, only pure air entering the flexible tube leading to the carburettor.

The "J.-W" shock absorbers and spring controllers are said to give ease and comfort when driving over rough roads. They can be readily fitted to the cars. In the event of the main spring breaking one of these spring clips can be removed from the end of the spring and used as a clamp to hold the broken spring together until such time as repairs can be effected.

Melbourne

John Danks & Son Pty. Ltd., of 391-403 Bourke-street, Melbourne, have a department entirely devoted to motor tools and equipment. All electrical appliances are stocked; batteries, including the principal imported and Australian makes; sparking plugs, all kinds; magnetos and parts, and lamps and fittings.

In addition to many special garage tools and appliances, several good jacks for repair work are recommended. A four-wheel trolley jack, twin lift, is reliable for every purpose. The "Ern Lake" patterns are made to suit Ford and Morris cars, while the same maker's "Junior" and "Universal" types are well known. For the car user a range of different jacks includes the various numbers as catalogued by Lanes. Their balloon design is a useful line. Fitted with telescopic handle, and duplex screw, it works speedily and safely.

A very fine selection of "Green Seal" replacement springs is carried, covering every make of car. The steel used in these springs is carefully tested, and may be relied upon. The same applies to axles, wheels, and other parts, which are maintained in full supply at all times. The entire range of Ford spares and fittings may be ordered, and also special tools for use on this make of car.

Quite a large selection of spanners and wrenches for Fords is now obtainable. Probably no portion of

the car is now without some appliance which renders it easily and quickly handled. Of the various spanners and wrenches for general uses, the assortment kept is almost endless. One of the handiest types is the "New Britain" series of socket wrench sets. Good examples are the Nos. 200 and 20. The first-named has nine different sizes, and is fitted with handle in steel holder, and No. 20 has a brace handle and an extension, enabling most inaccessible nuts to be reached with ease.

Besides a host of parts for chassis and frame, a large variety of materials for effecting repairs, grinding valves and other small jobs is available. "Kalon" aluminium solder has been proved quite a success. With "Kalon" the amateur finds the soldering of aluminium to any ferrous metal quite practicable. The firm are agents for "Zip" abrasives. With the aid of a friction paste of this make it is possible to grind any rough bearing without first scraping off. There are several grades, and each is put up in handy little containers.

The firm are distributors for "Oilgum" lubricants, of which a particular variety is available for every engine and for every purpose. These products include a useful hand cleaner, an oil soap, and a graphite preparation for chain and other forms of transmission gear.

A. G. Healing & Co. Pty. Ltd., of 354-58 Post Office-place, Melbourne, have for many years specialized in all classes of motor equipment, appliances and tools. Well known as suppliers of motor cycle fittings and gear, they constantly stock many special lines, both for the mechanic and the rider.

In garage appliances perhaps no range of tools has proved so useful as the Walden specialties. This factory produce a tool suited for every inaccessible part of a motor vehicle. Each car or cycle has a bolt or fitting which seems to have been designed to defy all efforts to reach it. The Walden list seldom fails to provide a tool to meet these cases. All are made of a material to stand severe wear, and altogether the Walden spanners form one of the best selections of their kind.

A very handy style of lubricator has recently been offered. This is known as the "Relecto." The set comprises an oil container which attaches to a wall, a length of tube, and a nozzle to which may be attached a nipple to fit any joint or system. It is a high-pressure appliance, and finds favour wherever it is installed.

The "Jay" lubricating system is another useful apparatus. A special oil is drawn into the engine, which keeps every part lubricated, prevents carbonization, and is claimed to have given remarkable results.

The "Sole" carburettor is also stocked by this firm. This appliance is meeting with great success in running tests. The releasing of one screw allows the jet to be removed in an instant, and makes cleaning an easy matter.

McPherson's Pty. Ltd., of 554 Collins-street, Melbourne, stock all ordinary motor tools and accessories, as well as many special appliances suitable for assembling or repairing. Several good valve lathes are recommended. The "Savidge Universal" bench valve lathe is for valves of 45 or 30 degree heads. It is quite simple to operate, and of solid make. The "Savidge Junior" lathe is suited for Ford or other valves, with $\frac{1}{2}$ in. stem and cast heads, up to $1\frac{1}{2}$ in. diameter and 45-degree angle. Grinding and reseating tools, tappet spanners and reamers of every kind are amongst a range of similar appliances.

A handy tyre pressure gauge is the "Amco," which

registers up to 120 lb. air pressure, is simple in construction and compact. Spanners and wrenches are too numerous to mention in detail. Perhaps one of the best of the universal type is the "All-in-one." Fitted with reversible ratchet, it works very easily. Sockets are pushed into a hexagon hole on the head piece, and firmly held. The tool suits dozens of jobs, and is not beyond the severest strains.

Jacks of all kinds and for all purposes are available. The motor user is well catered for in this respect, and a host of jacks can be mentioned which are safe and reliable. Of all the patterns available none excels the hydraulic type. Such a jack as the "Enots" could be given as an example. While the smallest child can work it, the principle gives it enormous power. A turn of the release lever is all that is required to lower the greatest load gently, and without effort. This type weighs only about 6 lb., and specially suits cars fitted with balloon tyres.

A most useful tool is the rubber mallet. The head is of either hard or soft rubber, and it is almost indispensable in the workshop. For driving a pin or screw without injuring the thread the hard rubber is valuable. The soft head mallet can be used to hammer out dents in mudguard or body without further damaging the metal. Both are excellent and should sell on sight.

Many precision instruments are to be found in this department, such as micrometer cylinder gauges, crank-shaft gauges, cylinder grinders and the like. The "Hutto" grinder is a safe model. This is known to motorists as the type supplied almost universally with American cars, and meets the case exactly.

A number of other accessories are always stocked. Lubricating systems, of the "Empress" or "Alemite" kind are good lines. Supplied with grease gun and the various fittings they embody the best method yet evolved of lubrication under pressure. Another handy line is the "Lubex" oil can. This is of brass, with movable spout. It can be adjusted to any angle and will force oil in drops or jet at will.

An interesting ignition gauge is known as the "Aircro." A compact, neat pocket instrument, it consists of a hard rubber insulating shell enclosing a small glass tube filled with a gas which flashes orange-red when electrified. Variations in the flashes indicate trouble and reveal the cause of any defect in the ignition system.

Alexander Mair & Co. Pty. Ltd., of McEwan House, Melbourne, have developed their motor supply department during recent years, until to-day their display of this class of goods is most extensive. Specializing in garage machinery, they carry a large selection of the modern classes of this equipment. Amongst these several of the important American brands are prominent. Stevens, Weaver and Dearborn are a few manufacturers represented in this field.

Weaver's provide some noteworthy apparatus for the speedy handling of repair work. An auto-hoist for lifting cars is most attractive. A worm drive with which this hoist is fitted gives a leverage of 200 to 1. The telescopic frame has a range from 7 ft. 6 in. to 8 ft. 9 in., and the whole job is designed to give perfect accessibility in use. Another good line is the "Hi Lift" jack—so constructed as to ensure a level lifting bed during operations. To this kind of plant the firm give special attention, and their stock should be inspected by interested parties.

Great success is reported with "Champion" sparking plugs, for which the agency is held. The features emphasized are: Two-piece construction, giving simplicity and strength; and the tested materials, which are claimed to be entirely heat-proof; and immunity from breakage. Every possible type is available.

Electrical Notes from New Zealand

(Specially Contributed.)

In connection with the Waitaki hydro-electric development in the South Island, investigations are now being carried on in three localities to determine the most suitable site for the dam—one above Kurow, another midway between Kurow and Wharekauri, and the third near Wharekauri. The middle site has been proved suitable, but, if decided upon, will render impossible future developments at either of the other sites.

The following loans have been authorised for electrical works:—Poverty Bay Power Board, £5000, being further portion of £280,000 loan; Central Power Board (Hamilton), £10,000, being further portion of £150,000 loan; Dannevirke Power Board, £16,000, construction and reticulation supplementary loan, 1927. A loan of £80,000 to the Waitemata Power Board, and a loan of £20,000 to Waitamo Power Board, both for electrical extensions, have been sanctioned by the ratepayers.

To build up a night load, Wairarapa Power Board is offering special rates on its surplus power during the night hours. Between 9 p.m. and 6 a.m. current will be sold for motive power at 3d. per unit, providing the consumer installs an approved time-switch, which will be controlled by the board. Between the same hours current will be sold for use in airing cupboards (a), at the same flat rate as for water-heating at night; (b) at 3d. per unit, providing the heating element is controlled by an approved time-switch to be supplied by the consumer.

The popularity of electric cooking is strikingly shown by the returns of the Waitemata Power Board, which installed ranges at the rate of rather more than one per day during November, ten being connected up in one week. The total number of ranges in use in the board's area is now 104. The total revenue from the sale of current, for the first eight months of the board's operations, ending November 30, amounted to £34,505. During November 110 new consumers were connected up, as against 100 for October.

Grey Power Board reports that as the result of an advertising campaign satisfactory sales of grillers have been made, and many inquiries received. Letters received from purchasers indicate that the grillers are giving every satisfaction, both as to efficiency and running costs.

During November 47 applications for service were received, and 44 new consumers connected, making a total of 1294, while the total load reached the following figures:—Lighting, 437 kw.; power, 1550 h.p.; heating and irons, 533 kw.; water heaters, 18 kw.; grillers, 53 kw. The board resolved to obtain a report on the matter of a demonstration room.

Water storage at the Mangahao hydro-electric scheme has now been supplemented to the extent of 166 million cubic feet of water by the completion of the new upper dam. The storage capacity available is now 248 million cubic feet, which includes No. 1 dam at Mangahao, 55 million cubic feet, No. 2 dam at Arapeti, 27 million cubic feet, and the new No. 3 dam.

It is expected that the Waikaremoana hydro-electric development now under construction will be assisting Mangahao early in 1929. Good progress is being made with the headworks, and work on the power station is being pushed ahead.

Canterbury is faced with the prospect of a shortage of electric power in the near future. Instead of the ultimate output of the Lake Coleridge hydro-station, amounting to 34,500 kw., being sufficient to meet the maximum demand up to and including the winter of 1932, the indications are that the winter demand for 1930 will reach these figures. As it is estimated that three years will be required to complete the Waitaki hydro-electric scheme, which will provide 30,000 kw., it appears that the power supply will be brought down to a very fine margin.

The Canterbury Progress League and the power supply authorities are urging the Government to speed up the installation of the new 7500 kw. generating unit at Lake Coleridge, tenders for which will shortly be called.

Hutt Valley Power Board, at its December meeting, reported that the total number of consumers tested to date was 6707, as against 5206 for the same period last year, and the total connected number 6549, as against 5211 for last year. Twenty-five electric ranges were installed during the month, making a total of 565 to date. Fifteen water-heaters (making a total of 295) were installed.

Revenue from September 1 to November 30, 1927, was as follows, the figures for the corresponding period last year being appended in brackets:—Lighting, £8231 (£5581); heating, £2278 (£1372); power, £2327 (£1674).

In connection with the 1928-29 allocation of loan money, the engineer reported that the commitments next year should be carried on in a manner similar to last year; i.e., at the rate of £5000 per month. The suggestion was adopted.

As the outcome of negotiations between the Government and Sir W. G. Armstrong, Whitworth & Co. Ltd., contractors for the Arapuni hydro-electric development, the Public Works Department will take over the construction of the power house and erection of generating machinery, while the contractors will complete the dam and headworks, which they have already carried to an advanced stage. The department considers that the power house should be completed in eighteen months.

The chairman of the Auckland Power Board states that if supply from Arapuni is available by that time the board will just about manage to struggle through, but any further delay will create a serious position as the board is linking up 100 consumers a week, and the new railway workshops at Otahuhu will soon require 1500 kw. The three Diesel engine generating sets to be installed at Penrose substation, near Auckland, will provide 500 kw. to carry the board over until Arapuni power is available.

No Lazing in New Zealand.

A Dominion subscriber (44/216) writes as follows:—"That the youth of the country parts of New Zealand are not brought up in luxury and ease is evidenced by the fact, that in a hardware store in a small town, a hammock on display brings inquiries if it is a fishing or a cricket net. A hammock appears to be the last thing it is thought to be."

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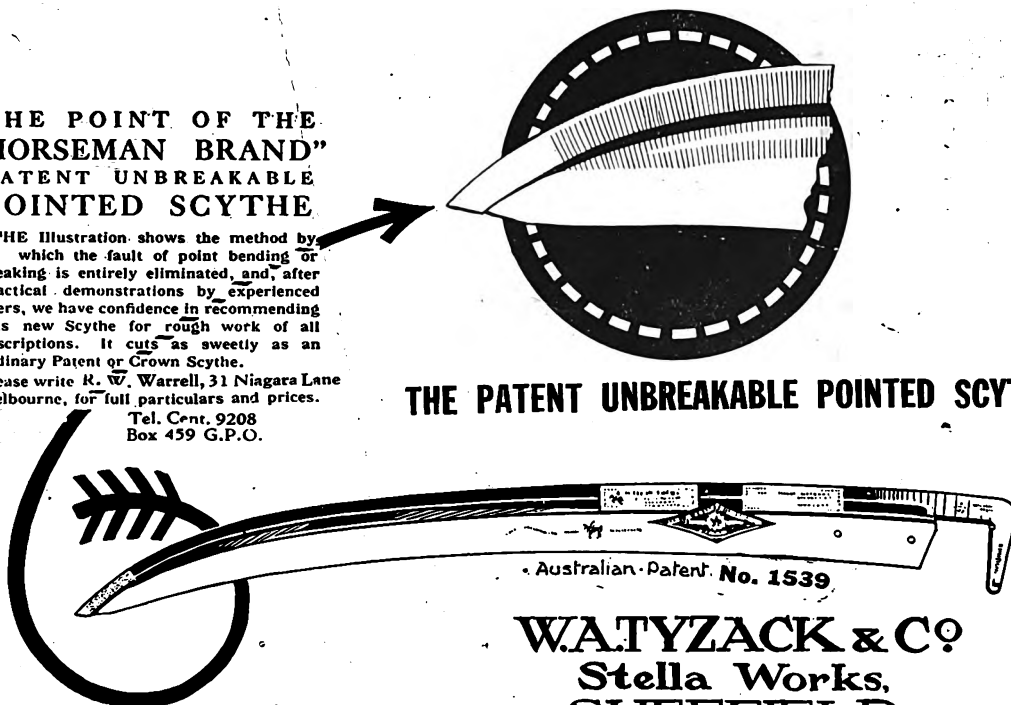
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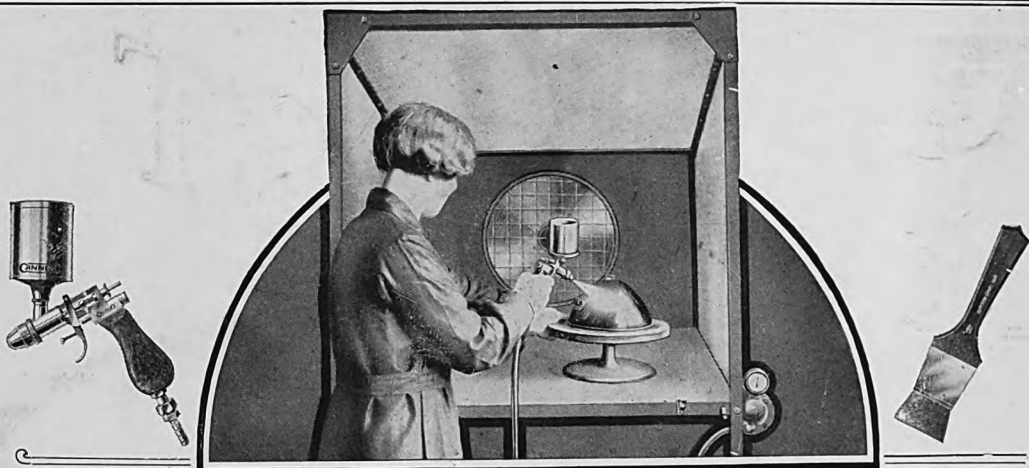


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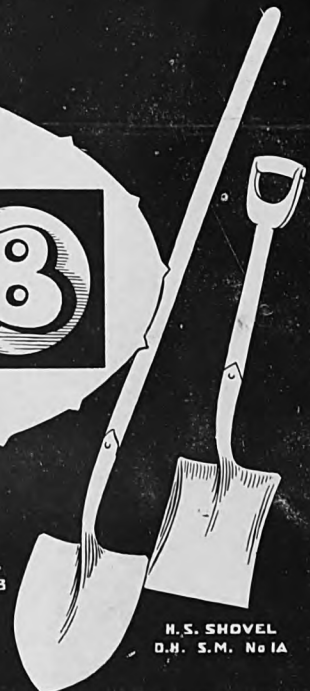


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Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

Factory Enlarged.

The Acme Manufacturing Co., of Glasgow, have experienced a satisfactory demand for their clothes wringers during the past twelve months, so much so that they have been obliged to add two storeys and five rubber mills to their premises and plant.

J. Chaleyer & Co. Pty. Ltd., of 510-14 Collins-street, Melbourne, and elsewhere, are the Australian agents.

Cutting It Fine.

A survey of chain store business in the United States was recently conducted by the Chain Store Economic and Financial Research Bureau. From 75 per cent. of such stores doing business throughout the Union statistics were obtained, and the results showed that out of a total of \$3,400,000,000 worth of business done during 1926 approximately \$1,156,000,000 or fully a third represented sales of commodities from which these retailers derived no profit whatever.

A Story of Hack Saws.

Although the "Star" hack saw blades have been on the Australian market for the past fifteen years or more, the story of these tools as now made by Clemson Bros. Inc., Middletown, N.Y., U.S.A., is not generally known. As far back as 1838 William Clemson saw the necessity for an instrument that would cut wood and metal at certain desired points, and started to manufacture blades of metal with teeth on one edge. His first shop was in the State of Massachusetts, but some twenty-three years later he became a member of the firm of Wheeler, Madden & Clemson, saw manufacturers, of Middletown, with whom he remained for twenty-five years, and was responsible for the invention of a large proportion of the saw-making machinery of his day. Some seventeen years before his retirement, however, his son, George N. Clemson, started in the same class of business as his father and is now president of Clemson Bros. Inc. Mr. George N. Clemson has had to do in a practical way with the production of all kinds of saws varying from bracket saws weighing forty gross to the lb. up to the largest saws now used. In the earlier days "Star" saws were forged from raw steel and for many years Mr. George N. Clemson even manufactured the steel. Like his father he has invented and built a number of machines for the manufacture of saws of all types for which his firm hold a number of patent rights. Before the advent of the "Star" saw the cutting of metal was chiefly the work of the blacksmith, with whom the loss of metal in the process of manufacture often outweighed the finished product. It was in 1884 that Mr. George N.

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Clemson built the first machine for testing hack saws, and it was then discovered that the blades would cut twelve pieces of 1-inch iron before re-sharpening was necessary. In 1886, however, his firm experimented with fifty-two kinds of hack saws. The tests involved changing dimensions, shapes of teeth, style of set and variable heat treatments, and the outcome of this was the production of a blade that would cut 387 pieces of 1 in. x 1 in. iron. We are informed that "Star" blades to-day very appreciably exceed that efficiency, and with the object of catering for a world-wide demand, tests have been applied under practically all climatic conditions. The firm now use only one grade of tungsten steel in the production of their blades, made to their own specification, and the saws are returned out upon a multiple basis.

Mr. Ross Duggan, of Cathcart House, Castle-reagh-street, Sydney, is the factory representative for this firm.

Foreign Exchanges

Foreign rates of exchange in London for cable transfer on the centres and dates indicated, compare as follows:—

Par.	—	—	Jan. 23	Jan. 26	Jan. 31	Feb. 2
4.886	New York	Dols. to £	4.87½	4.87½	4.87½	4.87½
4.866	Montreal	Dols. to £	4.88½	4.99½		4.88
25.225	Paris	Fracs. to £	124.00	124.01	124.00	124.00
35.000	Brussels	Bels. to £	34.98	34.99	34.97	34.98
25.225	Rome	Lire to £	92.12	92.10	92.06	91.99
12.107	Amsterdam	Florin to £	12.07½	12.08½	12.08½	12.08½
12.107	Batavia	Gul. to £	12.07	12.07½	12.08½	12.09½
18.159	Stockholm	Kron. to £	18.16	18.17	18.16	18.15
18.159	Oslo	Kron. to £	18.31	18.32	18.33	18.32
18.159	Copenhagen	Kron. to £	18.20	18.20	18.20	15.20
20.43	Berlin	3mks. to £	20.45	20.46	20.45	20.42
24	Calcutta	Pen to rup.	18½	18½	18½	18½
24.58	Yokohama	Pen. to yen.	23	23½	23½	23½
*	Hongkong	Pen to dol.	24½	24	24½	24½

* Par depends on rise and fall in price of Silver.

Editorial

Hasty Legislation

It is Herbert Spencer who says that the unexpected results of an Act of Parliament are often the most important results. Had the Victorian Government known this warning utterance of the English philosopher, they might have hesitated to place on the statute-book the "Postponement of Payments Act 1927." But confident of their own wisdom they deferred neither to philosophic principle nor business experience. They hurried the measure through in the closing days of the session, and are now contemplating the unexpected results, or, to be precise, they are wondering what will happen and what can be done to prevent it happening. That things unexpected will happen the business world is quite satisfied by this time, although it may be impossible to say just what and how.

A well-intentioned measure, admittedly, the matter was taken up by the Labour Party, now in power, at the instance of certain country supporters of theirs. Concerned about some soldier settlers and others who had suffered from the effects of drought or frost or both, they induced the Government to prepare a bill declaring what is tantamount to a moratorium over a great part of the State. Until February 28, 1929, no mortgage deed or other contractual obligation entered into by land-users in such part of Victoria can be enforced "without leave of the court." It is now stated that not only settlers but all other mortgagees and judgment debtors in the area affected—about one-third of Victoria—will come under the Act, and may take advantage of its provisions. Not only so, but it is obviously going to affect new business. The banks and other financial institutions which advance money on mortgage or otherwise will look askance at applications from this part of Victoria, seeing they have no assurance that interest will be paid. Already some such applications have been refused. So far from doing good to settlers who have been hard hit by natural enemies, this ill-advised piece of legislation may do some of them harm. It will, unless something is done to relieve the situation.

This measure about which so much is being said and written is indicative of the superiority assumed by certain politicians and their ignorance and mistrust of business men and business matters. "We, the merciful and considerate, will step in between these poor settlers and their rapacious creditors." Had "we" stepped in by assisting the hard-pressed to meet their obligations no one would have said a word. But those whose business it is to lend money naturally resent the implications of the method adopted. They point out, what should be apparent to all, that so long as farmers and country traders are honestly desirous of meeting their engagements they need have no fear of the screw being applied in

adverse period. As a matter of fact, lenders have nursed their clients through bad times in years gone by. They are doing so to-day in different parts of the State. Apart from any question of humanitarian sentiment, it is not "good business" for a man or institution to push a debtor unduly. Unless the debtor is shifty or reckless no business man would proceed to extremities. He has no stomach for it, and besides it doesn't pay. This is well understood in the business world, but among politicians with no business training a different view obtains.

Profitless Prosperity

In an interesting article contributed to an American paper Mr. Saunders Norvell describes the present so far as that country is concerned as "an era of profitless prosperity." This is caused, as may be imagined, by fierce competition and consequent cutting of prices. Speaking "by the card" or from actual knowledge, the writer gives instance after instance of prices being cut to the loss of profits and the demoralisation of the entire trade in that particular commodity. Such cutting began with manufacturers or producers of certain raw materials. One such producer brings down the price. A second hears of it and "cuts" still deeper, and so the thing goes on till goods are going out at less than cost, and no one knows what will happen. As an old salesman, Mr. Norvell knows how insidious this price-cutting temptation really is, but he also knows from his own experience as well as from the experience of the far-sighted chiefs he served in earlier years that it must be resisted at all costs. Goods ought to be sold at a fair price. To sell them for less is short-sighted and suicidal, endangering the firm concerned and reacting to the detriment of the whole trade. Here, in his own words, are the writer's conclusions:—

"Summing up the reflections in this article, it would seem that we should have a broader vision on the part of those in charge of sales and on the part of those in charge of buying than exists at present in many cases. All of us, in times like these, should think very seriously about the general welfare of the industry in which we are engaged. Paradoxical as it may appear, the manufacturer who comes around to the buyer with a cut price is not always the best friend of this buyer. This manufacturer is often an enemy to the welfare of the industry. All of us should get the principle in our minds that it is not always the low price that we receive which is the most advantageous. Low prices frequently lead to the demoralisation of an entire industry. In every phase of this industry, from raw materials through the manufacturer—to the jobber—to the retail merchant, progress can only be made on those lines of goods where manufacturers, jobbers and retailers are making a fair and reasonable profit. Progress can never be made when goods are sold at cost or at less than cost."

To sell goods profitably is the business of the merchant and salesman as well as of the manufacturer. In practice many forget this. Neglecting the adverb, they proceed on the principle that their business is to sell goods; to get rid of them anyhow. Turnover rather than profit is the goal of their endeavour, and in their efforts to swell turnover they are tempted to shade price until business becomes unprofitable. Their sales leave little or no profit, and the more they sell the more unsatisfactory becomes the position. The Irish applewoman, who was admittedly selling for less than she paid, asked her interrogator to "look at the turnover." He could see what she could not—not till afterwards—that the more apples she "turned over" the worse off she really became. Another American who is opposed to "cutting" practices and price sacrifice on any ground puts it this way:—"Profit is the basis of all successful business. The measurement of prosperity in business is not volume of merchandise and credit in circulation, but what is left after costs of every kind have been deducted from the income that volume brings." Mere volume has become a fetish with many people, and instead of studying how to make profit they study how to make sales. A reasonable profit is the right of every man who engages in business and ought to be his guiding principle.

Industrial Co-operation.

Every instance of better feeling between employer and employed, and every suggestion for the smoother running of the industrial machine are deserving of attention. For that reason we welcome the recent conference between capital and labour in Great Britain and the spirit of accommodation there in evidence. It is becoming clear to reasonable men on both sides that strife and division are uneconomic as well as unholy. That way lie suffering and loss.

Elsewhere in this issue we cite an illustration of this better temper or friendlier policy. It lies nearer home. The secretary of the Canterbury Employers' Association, New Zealand, has set forth the considered views of that body. It is found that whereas wages throughout New Zealand are fully 60 per cent. above the level of July, 1914, the farmer is only receiving about 40 per cent. more than pre-war prices for his various products. That condition of things cannot continue without "inviting national disaster." What is to be done? Reduce wages, say some. Not at all, say others. Increase wages so as to increase the purchasing power of the community and provoke employers to find better methods of production. This particular body desire neither increase nor decrease. Let us have a truce, they say. For a term let labour agree to ask for nothing more and capital agree to give nothing less. Nothing short of that will enable employers to seek improvements in methods, and so bring prices down to the benefit of the artisan as well as of the farmer. "Increased purchasing power on the part of the workers should tend to stimulate trade and industry with resultant benefit all round."

Suspicious Tool Steel.

As we go to press, too late for full inquiries to be made, we learn that the tool steel swindle is again being worked in this part of the world. The engineer of a large firm in Melbourne has com-

plained of the "unscrupulous methods" pursued by the representatives of some foreign firms in obtaining orders for such material.

According to this account, the traveller seeks to ingratiate himself with some of the heads of the firm, and then visit the office for the ostensible reason of making the acquaintance of the technical staff, and demonstrating to them the superior quality of the steel his company produces. He is a director of the company, so he says, and his object in visiting Australia is to appoint agents and establish business relations with large firms. Although he is not seeking orders, according to his own account, he yet astutely induces the firm waited on to place a trial order for "just a few bars." The steel is to be delivered c.i.f. Melbourne, cash against documents. "When the steel arrives, it is found that payment must be made before it can be received. Then the buyer discovers that it is probably second-grade steel, and that, though the trial order consists of only three bars, they are the heaviest bars made, the total price being about £90."

This is the sort of thing we have been exposing periodically for the past twenty-five years. Since 1902 we have had knowledge, more or less, of seven different invasions of Australia or New Zealand, or both, by these steel travellers from Continental Europe with their vest-pocket samples and their questionable practices. This, of which we know no more at the moment than what is stated above, will be the eighth. Not always have they approached the same interests. They took good care of that. Beginning with the large foundries, they worked in different years through the mining companies, the sugar mills, and even the breweries. But whatever the interest approached, the method of approach was suggestively alike. And the results were always unsatisfactory. Those unwise enough to place orders found themselves saddled with much more tool steel than they wanted or believed they had asked the suave traveller to send. And the quality was never up to sample. Steel for which as much as 3/6 per lb. was paid before the Great War was described by one of the aggrieved consignees as "mere rubbish."

Farewell and Presentation.

Mr. T. R. Hopkins, managing director of the Queensland Can Co. Ltd., was entertained by the employees and presented with a suitable souvenir, to mark the esteem and goodwill in which he is held by the staff. Mr. E. Forth, the chairman of director, presided, made the presentation of a fitted cabin trunk, and referred to the successful effort to put the company's manufacturing business on a satisfactory basis. Mr. E. O'Brien, chairman of the employees' committee, thanked Mr. Hopkins for the kindly interest he had always shown in the staff.

Change of Employment.

Mr. A. S. Robinson has joined Mr. E. P. Houghton, manufacturers' agent, of 379-81 Kent-street, Sydney, and McEwan House, Little Collins-street, Melbourne. For many years with John Moreton & Co. Ltd., Wolverhampton, Mr. Robinson gained a varied knowledge of the hardware trade. When the Great War broke out he joined the Staffordshire regiment, and was under arms until the end came in 1918. Having been gassed, he was advised to seek health in Australia, and on arrival in Sydney obtained an executive position with Hill Magill Ltd. There he remained until the firm was absorbed by Keep, Macpherson, Ltd.

Inquiry Column

Information Supplied.

Yale Locks.—Name and address of agent supplied.

"Pyrex" Ware.—Name and address of agent supplied.

Babbitt Metal.—Name and address of agents supplied.

Vickers Tractors.—Name and address of agents supplied.

Welsback Mantles.—Name and address of agents supplied.

British Xylonite Co.—Name and address of agents supplied.

Bernard's Pliers.—Name and address of agents supplied.

Asquith Drilling Machine.—Name and address of agent supplied.

"Viko" Aluminium Ware.—Name and address of agents supplied.

'Armco' Iron.—Name and address of Melbourne agents supplied.

Hyatt Roller Bearings.—Name and address of agents supplied.

Roval Crown Derby China.—Name and address of agents supplied.

"S.A.P." Rabbit Poison.—Name and address of proprietors supplied.

Wertheim Sewing Machines.—Name and address of agent supplied.

"Lockfast" Bedstead Fittings.—Name and address of manufacturer supplied.

Burman & Sons Ltd. (horse clippers).—Name and address of agent supplied.

Thornton's Improved Sliding Rule.—Name and address of agent supplied.

Josiah Rodgers & Sons Ltd., Sheffield.—Name and address of agents supplied.

Steel Wool.—Names and addresses of manufacturers and agents supplied.

Bench Vices.—Name and address of manufacturers in Melbourne supplied.

Lysaght's Galvanised Iron.—Name and address of agents in Queensland supplied.

John Round & Sons. Sheffield (cutlery).—Name and address of agent supplied.

Screens for sand and gravel.—Name and address of manufacturers in Melbourne supplied.

Wynn, Timmins & Co. Ltd. (horse clippers).—Name and address of agent supplied.

The Burns Mfg. Co., Syracuse, N.Y., U.S.A.—Name of travelling representative supplied.

Clothes and Dish Washing Machines.—Names and addresses of distributors in Sydney supplied.

Baldwin's "Phoenix Crown" Galvanised Iron.—Name and address of agents in Queensland supplied.

Masseley Process for embossing showcards and price tickets.—Name and address of agents supplied.

Pioneer Rubber Mills. San Francisco, Cal., U.S.A. (ribbed garden hose).—Name and addresses of agent supplied.

S. L. Allen & Co., Philadelphia, Pa., U.S.A. ("Planet Junior" garden implements).—Name and addresses of agents supplied.

Information Wanted.

Philip Rayson Oil Engine.—Name and address of agent wanted.

"Slayit" Slug and Snail Compound.—Name and address of agent wanted.

"Supreme" Hurricane Lantern No. 210.—Name and address of agent wanted.

McEuen & Co., Cannon-street, London.—Name and address of agents wanted.

Horse Clippers of American manufacture.—Name and address of agents wanted.

Thomas Green & Son Ltd., Leeds (lawn mowers).—Name and address of agent wanted.

American Blower Co., Detroit, Mich., U.S.A. (fans).—Name and address of agent wanted.

International Steel Wool Co., Springfield, Ohio, U.S.A.—Name and address of agent wanted.

New Brantford Mowers.—Name and address of agents in New South Wales and Victoria wanted.

G.M.F. Mill, for crushing maize and oats, No. 2019.—Name and address of firm stocking spares wanted.

Chas. Smith, Sons & Co. Ltd., Birmingham, England.—Name and address of Australian representative wanted.

Enterprise Mfg. Co., Akron, Ohio, U.S.A. ("Pfueger" fishing tackle).—Name and address of agent wanted.

LEGAL INQUIRY

Responsibility for a Wife's Debts.

The wife of a Victorian dealer carried on a separate business venture of her own, but not having much capital she got behind with her accounts and decided to wind up. Now the husband is being threatened by one of her creditors. Is he responsible?

A.—A husband is not liable for debts of his wife contracted in carrying on a business of her own.

Risk of Supplying a Minor.

Subscriber 28/143 supplied goods to a minor on a letter. The account was sent to her father, who denies authorising the goods or the signature, and declines to pay. The father is a Government servant. Would it be of any use to write to his departmental head?

A. A daughter has no power to pledge her father's credit for goods. Unless the vendor can prove that the father authorised the purchase on his account, the vendor has no remedy except against the daughter. It would be no use writing to his superior officer.

Interest on Overdue Accounts.

Victorian subscribers (36/215) wish to know if a dealer can legally charge interest on overdue accounts "and if a customer refuses to pay, in what manner will it be recoverable? There is a note on his monthly printed statement that interest will be charged on overdue accounts."

A.—An agreement to pay interest on debts may be implied from the course of dealing between a dealer and his customer. In this case there is an express statement by the dealer that interest will be charged on overdue accounts: if goods are ordered by a customer after notice of this stipulation, he impliedly agrees to pay interest on his account if it is overdue. Such interest would be recoverable in an action for the recovery of the debt by claiming the interest in addition to the debt, and on proof of the agreement to pay interest.

Sundry Credits

By J. Knibb.

Some months ago I mentioned a big "shot" to the credit of the Kandos Cement Co., in New South Wales. With thirteen tons of gelignite they displaced 125,000 tons of limestone or sufficient to make 90,000 tons of cement. Recently the same company went one better. No less than fifteen tons of the same rendering compound was rammed home in fifty-two different bores to a depth of about one hundred feet. Exploded simultaneously, the gelignite dislodged 160,000 tons of limestone rock, being the equivalent of 115,000 tons of manufactured cement.

* * * *

In this world of change certain trades have disappeared with or without the terms that designated them. Sometimes the name has gone, leaving the work to be carried on under another name. In one of the late Thomas Hardy's books is an interesting character, Reuben Dewy, "tranter and haulier," of Mellstock. Reuben was known in the village as "the tranter"; and tranter, the author explains, is, or was, an "irregular carrier," although an old dictionary in my possession defines it as "a hawker of fish." Haulier is hauler, one who hauls; just as sawyer is sawer, one who saws. Sawyer is still a dictionary word, but haulier is not.

* * * *

In one of the Scandinavian countries a certain manufacturing firm have adopted what seems to me an excellent idea. They obtain the official export figures of the various articles in which they are practically interested, compare these with their own export figures and acquaint their agents with the result. On printed forms they set out the "total export" of any particular article over a stated period compared with "our export" of the same article for the same time and country. One of these schedules filled in for the benefit of their Australian agents is before me as I write. For these agents, I should think, the return will have more than a healthy interest. I should expect it to have a stimulating effect.

* * * *

A great convenience no doubt, but exasperating sometimes. I'm speaking of the telephone. Some of the irritations might be overcome if people would only use the thing sensibly. Who of us has not been annoyed to find himself discussing his business with the wrong person! That person was to blame; he should have let you (or me) know who he was. Say I want Brown & Co., the ironmongers. If when his bell tinkles Mr. Brown instead of saying "Hello!" or "Who's there?" were to say "Brown & Co., ironmongers; Mr. Brown speaking," see how the decks would be cleared for action. I on my part would say "White here, of 20 Black-street. Will you please send us a four-pound tin of that green paint of yours and a brush to put it on with." You catch my meaning? At the end of a wire the first thing I wish to know is who exactly is at the other end.

* * * *

In all heartiness we have been wishing each other a happy new year! Now we are left to realise our wishes—to try to make 1928 a "happy" year for ourselves and others. Although much that contributes to happiness and prosperity is really beyond our control, we can all do something to secure or promote these desirable ends. To the debt-racked Micawber the happy man was

he who lived within his income, and every man is called upon to exercise prudence and forethought. He must think of to-morrow as well as to-day, not burdening himself with the future but taking reasonable precautions and leaving it at that. In business life especially, risks have to be taken, but the business man is not a gambler nor even a speculator. He meets legitimate demands, steady or occasional, and gives honest value for all the money that comes to him. Service is the main thing, service in the right spirit.

* * * *

Never too late to mend; never too old to learn—dare we affirm this? The old couplet says—

Learn young, learn fair,
To learn old is very rare.

Never Too Old Rare, but not impossible. And rare, I take it, not only because the old dog finds it increasingly difficult to acquire new tricks, but because he refuses to try. He won't be bothered. In some things, no doubt, a man can only hope to excel by beginning young, but even to middle life and advancing years a measure of competence is possible if men would only give themselves to the new thing. Some do and attain a measure of success. I take off my hat to the Melbourne resident who at 83 years of age has started to take lessons in swimming. May he live to enjoy many a swim, even though the distance covered may be short and the rate of progression slow.

* * * *

A lead pipe and a lead pencil are quite different not only in appearance and utility, but in character or composition. The pipe is made of the metal lead, whereas the pencil has no metal in it. The wood-covered core is really plumbago or graphite or more popularly "blacklead."

But whatever called it is not lead, and, although a mineral substance, not metal. In Great Britain for many years pencils were "filled with pure Cumberland lead," but the famous Borrowdale mines in that county were exhausted long ago. So pure was this English graphite that the best of it was cut into slips and used in its natural state. In other parts of the world fairly pure deposits are found to-day, but no such pencil can be obtained anywhere. The pencils we now buy and use contain a fabricated "lead"—plumbago ground to powder with clays in varying proportion, the whole mixed and wetted, the "dough" squeezed through holes in a metal cylinder, the continuous thread cut into lengths, air dried, red-heated in a covered crucible and allowed to cool.

* * * *

A somewhat analogous case is that of sharpening stones or whet stones: Here, however, the artificial has not displaced the natural altogether. At one time, and that not so long ago, all kinds of sharpening stones, coarse and fine, were natural products. Many of them are so still. But not all, not perhaps a majority. Carborundum, now so largely used for abrasive purposes, is a product of the electric furnace, a mixture of carbon and silicon (sand and coke mixed with sawdust and salt) fused under intense heat. Corundum, from which it takes its name, is a mineral of remarkable hardness. It is found in many parts of the world and has long been used in India for polishing all gems except the diamond, which is too hard for it. Corundum is really alumina or oxide of aluminium in its native state. Hence the registered name "Alundum" applied by an American firm to their carborundum products. Emery, so well known by hardwaremen, is a variety of corundum. Carborundum is nearly as hard as diamond, and is better adapted than corundum for certain abrasive purposes.

Novelties and New Samples.

A Kelly Axe in a House Brand.

S. Hoffnung & Co. Ltd., of 165 Pitt-street, Sydney, have put on the market the "Waratah" axe, their own brand, this well-known Australian flower appearing on the blade in red enamel, surmounted by the word in gilt. The head is of gunmetal finish. Made by the Kelly Axe and Tool Co. Inc., U.S.A., the pattern of the well-known Tasmanian axe has been followed to a certain extent, but the new tool is wide in the blade. The axe has been specially ground for expert choppers. So well tempered is the crucible steel that constant grinding is not required, a keen cutting edge being maintained under hard use. The head has a taper eye, giving a perfectly tight handle.

Improved Cylinder Churn.

As agents for an American firm, Nelson & Co. Ltd., of Broughton House, 47 King-street, Sydney, are now showing specimens of Hall's improved cylinder churn. Made from selected white pine these churns can be procured in five sizes with a churning capacity of 1, 2, 4, 6 and 8 gallons respectively. The latest improvements are incorporated such as a simple device at the side of the churn which,



when pulled out prevents the handle from slipping and also allows for the breaking down of the machine quickly for cleaning purposes. The representatives have a full range of samples and will submit indent quotations on request.

Wire Gauze Window Screen.

The H.W.S. Manufacturers, 2 Jacques-street, Chatswood, N.S.W., known as makers of hygienic window supplies, have lately constructed a roll-up wire gauze window screen adaptable both to casement and box frame windows and shutters. A fine wire gauze is attached to an ordinary spring roller. At the sides of the former are a number of brass clips which engage in the metal runners inside the frame. These in no wise impair raising or lowering of the gauze blind to any required position as in the case of ordinary roller blinds, and it is operated by a small pull cord in precisely the same manner. This window screen can be fitted between the window and the linen blind or curtains and is so fine and neat that it is almost invisible from either outside or inside the room. As against other window fly screens the H.W.S. allows easy access to the window for opening and closing and, as already inferred, does not interfere with the curtains or drapery.

English All.

E. H. Collis Pty. Ltd., of Danks' Buildings, 493 Bourke-street, Melbourne, and Beaucaire House, 103 York-street, Sydney, have received from H. & T. Vaughan Ltd. supplies of casement mortise locks of similar make to the well-known M400, but with the

difference that it is double-handled and is called M500. It is sold at the same price as the older make. The method of operation is by reversing the face plate of the lock.

Wm. Hunt & Sons, the Brades Ltd., near Birmingham, have produced a new gander shear specially suitable for trimming the edges of buffalo and similar heavy grass lawns. It is a handy size for the purpose, and is reasonably priced. The "Dorothy" is the name of the new tool.

John Rabone & Sons Ltd., Birmingham, are making a new foot rule, No. 1162, specially suitable for household use, the price being very low. A new system of marking has been adopted, between the well-known "blind man" size and that of an ordinary rule.

Household Wares from Birmingham.

Mr. Louis A. Scott, of Danks' Buildings, Pitt-street, Sydney, has received new samples from Harry J. Pratt Ltd., Nestor Works, Birmingham. Smokers' stands are fitted with a patented receptacle, which does away with the need for the glass container with its likelihood of breakages. A further point is that the ashes are not visible in the new device. The stands are made in various shapes, with all brass and old silver finishes. Royal blue finish is the newest addition to the list. A bird cage and fern pot combined is made in the form of an arch in antique brass finish. Table and floor electric are in all finishes. Mirrors with metal frames are becoming popular and new patterns are on view. Uncommon are the nut crackers in the form of alligators, the larger sizes being useful as door stops. Fern pots are new as to shape and decorations, some of the results being very pleasing. Hearth sets include curb, irons, coal screen, coal bucket and tongs. Metal trays are in variety and include reproductions of ancient shapes. Copies of old French coffee pots in brass and copper finish are an attractive feature.

From Napper & Co., Mott-street, Birmingham, come aluminium household utensils and bathroom fittings. Fish friers are now available in three sizes, only one size having been on the market hitherto.

Sheffield Tools.

A new and important product from Easterbrook, Allcard & Co. Ltd., manufacturers of engineers', boiler-makers', pipe fitters' and other small tools, Sheffield, England, is a new chaser die stock which is being prominently shown by their Australian representative, Mr. E. R. Bennett, of Broughton House, 181 Clarence-street, Sydney. This tool is manufactured in six sizes for British standard pipe thread, while its chasers are made to cut the correct British standard taper of $\frac{3}{4}$ in. to 1 ft. A full thread can be cut at once or, if desired, two or more cuts can be taken to screw the pipe. The die complete has graduations so as to set the exact standard size, although, if desired, smaller or larger sizes may be cut. There are two clamping nuts and bolts for securely holding the camplates in position.

A wide range of carbon steel twist drills from the same manufacturers are displayed in singles as well as in sets, and can be obtained in leatherette cases or on stands as desired. These drills are guaranteed made in their own factory. High speed drills are also featured.

In addition to their best quality engineers' taps—whitworth bolt thread con-eccentric type—the firm also manufacture "Presto" taps, which are becoming popular in this country because of their accuracy, pitch and shape of thread. "Hexagon" die nuts in both heavy and light pattern are shown. These samples differ from other makes of low-priced nuts as they have greater width of flats and thickness.

Other types of tools in the range are Clyburn spanners, vices, tube expanders, in assorted sizes and patterns, ratchet braces, engineers' hammers, tinsmen's snips, and engineers' equipment for railways and tramways.

Quick-Boiling Kettle.

Erwin Miller & Co., of Sheffield House, 310 Pitt-street, Sydney, sole agents in Australia and New Zealand for Sigg Ltd., Frauenfeld, Switzerland, are showing a quick-boiling kettle. Handsome in ap-



pearance, this improved kitchen utensil is very broad at the bottom, tapering gradually towards the top, this being the reason why it boils quicker than other shapes. A solid wooden knob and an insulated handle prevent the user's hands from being burnt. The bottom is corrugated so that the kettle may be placed upon saucepans or boilers of four sizes if desired, thus saving space on the stove. The utensil is made in three sizes to hold 5½, 7, and 8 pints respectively.

Swedish Stoves and Sheffield Brands.

Mr. E. C. Jude, of 430 Bourke-street, Melbourne, is representative for Aktiebolaget Radius, Stockholm, manufacturers of kerosene gas stoves. Both the "loud" and silent types are supplied, and all parts. In addition to the well-known patterns, which are available in all sizes, a special folding stove is made, the feet being fitted so as to fold beneath the tank and the burner dismantled easily. This is a handy design for picnics, or travellers, when space is limited. Each stove is packed in a corrugated cardboard box, except the tourist types, which are in tin boxes.

A neat little stove is also made for spirit fuel, intended for warming food, or boiling water for tea. This is either of brass or nickel-plated brass, with strong wooden handle. The burner may be regulated to increase or decrease the flame as desired, and a burner cap is supplied for extinguishing. Handle, stand, and burner are quickly removed for convenience of carrying. This is an extremely useful little appliance, and remarkably cheap.

The same makers show a range of burning-off lamps, of many sizes and patterns for different work. A feature of the construction is that the burner is made of a seamless tube, bent without sharp curves. The gas duct is thus of ample area, not liable to become choked with carbon. The handle is of the coil wire type, obviating any danger of heating.

Mr. Jude is also agent for Rippon & Dean, of Sheffield, who make every appliance for marking and branding. Sets of steel letters and figures, stamps, and iron brands, all are included in this

range. The list comprises every size from 1-16th in. to any dimensions, and illustrated price lists may be had on request.

Rust Preventive.

Automotive Pty. Ltd., recently established at Union Buildings, 8-14 Bond-street, Sydney, are the sole Australian representatives for American Automotive Export Co., Detroit; Dearborn Chemical Co., Chicago, and affiliated companies—American Injector Co., and Metal Products Corporation. For the present they are confining themselves to placing on these markets a new rust preventive called "No-Ox-Id," a product of the Dearborn Chemical Co., claimed to be a cure for rust as well as preventing it. Transparent in colour, "No-Ox-Id" is manufactured in twelve different consistencies for the specific requirements of users for all metals exposed to rust or corrosion under various operating conditions in different classes of industry. The base of the material is a refined non-oxidised petroleum product into which special rust inhibiting chemicals, known to the makers, are introduced to give protection. Its superiority over paint and other hardening coatings is that it remains plastic, and is therefore not liable to crack or peel off through contraction or expansion or chemical action. It is said to withstand extreme temperatures as well as the action of organic acids and moisture, including salt water. Furthermore it is claimed that it will stop pitting that has already started in boilers and tanks, and will also arrest deep-seated corrosion from further penetration. A thin coating only, either rubbed on, brushed or sprayed, is all that is necessary to apply to rust-eaten metal, a feature being that the more you rub or brush it into the metal, the better it works. Water tanks may be safely coated on the inside with "No-Ox-Id" "A" without the least fear of contamination. Its uses extend to both large and small machinery plants, locomotives, boilers and engines, pipe mains, motor car engines and parts, gas holders, down to the smallest metal equipment or fixture. It is put up in steel drums containing 450 lb. gross and 240 lb. gross, and has an average covering capacity of 150 to 200 sq. ft. per gallon of 7½ lb.

British Metalware and Tools.

Mr. George H. S. Hoos, of Carson-place, off Little Collins-street, Melbourne, has recently opened a range of the samples of T. & C. Clark & Co. Ltd., of Wolverhampton. Quite a good line is their steel enamelled saucepans and stewpans, kettles and boilers. These are in both pearl and white; the steel is of good weight, with a heavy deposit of porcelain enamel, while prices are competitive. The firm are also large manufacturers of aluminium kitchenware. An extensive range comprises aluminium teapots, stewpans, colanders, hot-water bottles, and steamers for cast iron saucepans. Clark's cast iron hollow ware, a complete new set of which is displayed, is too well known to require further description.

On behalf of the same manufacturers, family and counter scales and balances are shown. The dial pattern balance for household use is to weigh 20 lb. by 1 oz., and is of sturdy construction. The pan is especially strongly made, heavily tinned. Counter scales are in all sizes, and the range includes brass lolly scales; all of these lines are moderately priced.

Builders' hardware is another feature of the range, together with pulley blocks and hoists of all kinds. Food choppers are supplied in two sizes, Nos. 1 and 2; these are of the familiar American pattern. Kerosene stoves, under the firm's "Shakespeare" brand, are made in both single and double wick design, and box and sad irons in the various weights.

As representative of Wynn, Timmins & Co., Mr. Hoos has a full range of this maker's well-known mechanics' tools open for inspection. Here again

most of the lines are quite familiar to the trade. Perhaps no manufacturer has so comprehensive a selection of plyers and tinsmiths' appliances on the market. A variety of single and double washer cutters is worthy of special mention; they are, as always, of solid make and of the reliable "Heart" brand quality steel.

New stocks have just arrived of Harrison Bros. & Howson's Sheffield cutlery and e.p. ware spoons and forks. A collection of cased carvers is included in a fine display.

Brushes, Locks and Cutlery.

Ryall & Brock, of Hardware House, Post Office-place, Melbourne, are Victorian agents for G. B. Kent & Sons Ltd., whose brushware is known throughout the British Empire. A new sample range is now to be seen at the firm's rooms. Many lines are offered, in addition to the usual domestic brushes which are familiar to the trade. Single brushes are in various patterns, including a special handled design which is very neat, while a set of military brush and comb, known as the "Midget," is sure to be popular. It is small and compact, as the name implies, and finished exceptionally well. A feature of the new samples is the use of "Tricolith" instead of the usual wood back, a non-inflammable material, which comes in a pleasing variety of shades, giving a fine appearance and taking a delicate finish.

Humphrey & J. Fox, of Willenhall, for whom the firm are Australian representatives, are old-established manufacturers, with an extensive range of all kinds of locks and latches, several of which embody principles of construction giving security against burglary. Their No. 1815L locking latch is an example. The makers point out that the ordinary cylinder lock is repeatedly opened by the simple method of breaking the glass in a panel door, inserting a hand and turning the knob. In this type provision is made for double locking by a keyhole behind the knob. The key is inserted here and given a half-turn before leaving the house or retiring. This effectively locks the knob so that the latch cannot be turned without the key. No two of these locks are alike. The "Century" No. 44 is a five-pin tumbler cylinder night latch with reversible bolt, double-handed, suitable for doors from $\frac{3}{4}$ in. to 2 $\frac{1}{2}$ in. thick. Another good latch is the "Empire," No. 20. This also is fitted with reversible bolt and double-handed, with three paracentric keys. A complete range of rim, mortice locks, padlocks and others is well worth a visit of inspection.

Bennett & Heron, of Sheffield, are represented by a full range of stainless steel cutlery, both loose and in canteens, stainless nickel and also E.P. spoons and forks. The stainless spoons and forks are confidently recommended by the factory for their wearing qualities. They have a nickel content of 30%, are strongly made and excellently finished and packed. The oak canteens are of various sizes and in a number of different designs, lined with coloured velvet. The material used is Firth's stainless steel, quite a feature being the attractive mirror finish which greatly enhances the appearance of the knives. A special number is fitted with grained xylonite moulded handle and flush bolster. It would be difficult to find fault with this line; for not only is the quality and workmanship good, but the price is "right."

British E.P. Ware and Cased Goods.

Mr. Oliver M. Tibbitts, of 360 Post Office-place, Melbourne, is now displaying a completely new range of cased goods and E.P. ware from Arthur Price & Co. Ltd., of Birmingham. These manufacturers again offer many new lines, besides introducing new features in the direction of improving the design and finish of their popular numbers. Every part and process is undertaken at their own works. This

applies even to spoons and forks, which are so often made from blanks turned out in the rough by stamping concerns, while the company owns a factory devoted to the manufacture of jewellery cases, and thus are not dependent upon outside suppliers.

Cased afternoon teaspoons, either alone or in combination with tongs, sugar spoons, and strainers, are in large selection, and there are many excellent numbers in cased cake forks with servers, also fruit knives and forks in either xylonite or all-metal handles, and cake forks with side cutters. A novelty is cased sets of fruit salad spoons and servers, the pattern of the spoons being unusual and appealing. In all of these the use of imitation antique leather or crocodile covers adds to the effect. A case with a double fold-over lid, containing cake forks, in various coloured linings, is specially good, and is a welcome addition to the range of patterns.

Sets of six soup spoons and ladle should prove an attraction to buyers, while fish eaters are in several numbers, each with its own type of case. In the latter, one of Jacobean design containing servers as well as knives and forks, shows new treatment in both coverings and case. The selection of canteens and cabinets again offers a wide choice as to qualities and sizes, and those interested will find it difficult to pass this range. One cabinet, No. 333, which is a neat style finished in antique imitation leather, promises to be a great attraction. The series extends from the nine-piece set (which is itself an innovation) to No. 328, a large double-drawer pattern with 110 pieces.

A big assortment of children's sets, knife, fork and spoon, is included in this year's samples. These are carded and boxed, and covers are illustrated with coloured scenes which appeal to the juvenile eye.

Anstey & Wilson, of Birmingham, are manufacturers of E.P. table ware, such as butter dishes, honeys, jellies, cake baskets, and similar goods. Butters are in both glass and china, the latter being effectively decorated. In sugars the range is very large, and this applies also to honey jars and jellies. Those patterns fitted with all-metal containers are rendered more attractive by their gilt interiors, while the varied tones of the china designs make these goods suitable for shop display. Many containers are of the popular cut crystal material. A good idea is the use of certain decorations in the china pieces, such as kookaburra, flowers, bird scenes and the like, so that each table article may be had in the same design. This applies also to salts and peppers, biscuit barrels, and cruets.

In every case the buyer is offered an exceptionally large range to choose from, biscuits alone comprising an endless variety. Cake baskets are characterised by a tendency towards the simplicity of pattern which is in constant demand to-day; both plain and pierced types are shown in various numbers. There are also entree and vegetable dishes in oblong and oval shapes, which will appeal not only for their make, but for the price at which they can be retailed. All of these maker's lines are of excellent value, and show reductions on previous lists. Other E.P. goods are sandwich dishes, fruit and cake plates, some with metal stands and china containers; nut dishes and crackers, toast racks, single egg cups, several with trays attached, which may be easily separated for cleaning; fruit dishes with servers; and tea sets in a number of good shapes. One tea set in case is supplied with a tray neatly fitted within the lid, an excellent idea; and a novelty which has met with approval is a frame for the round gruyere cheese box so familiar on the Australian table. A specialty of this firm's is a selection of prize cups and trophies on stands, a useful line for the store at any season. A number of good salad bowls; pyrex casseroles, mounted in pierced or wire frames; and salad bowls and servers completes a comprehensive range.

Pottery and Glassware

Crown Staffordshire.

Lewis & Carmichael Ltd., of 277 Clarence-street, Sydney, have opened up fresh samples from the Crown Staffordshire Porcelain Co. Ltd., embracing new shapes and designs and smart colourings. Very rich and effective is a tea and dessert set bearing a royal blue leaf and garlands of flowers, enriched with circles of gold. Another line is ornamented with pheasants, and yet another has a light blue extending to a depth, and beneath this are festoons of fruit.

Powder blue is to be had at a variety of prices, and perhaps the most striking example is a powder blue all over, relieved with bright bird patterns and fine gold scroll, making an effective design for tea or dessert ware. An oval sandwich tray is decorated with a border of powder blue, interwoven with gold and floral designs.

Royal Devon Art Pottery.

On behalf of the makers, Hart & Moist, of St. Thomas, Exeter, some interesting samples of Royal Devon art pottery are now being shown by S. Segal & Co. Ltd., at Commerce House, Flinders-street, Melbourne, who are also established at Leitch House, 127 York-street, Sydney. Quite a "select" range is offered, including many fine combinations of colours and shadings. The mottled blue and "Blue Bird" decorations are sure to appeal to buyers, as the shapes and designs are always good.

The articles shown are art pots, bowls, butters, jugs, tea sets, and practically all domestic lines, supplied either with or without mottoes. Various decorations are used besides the blues above mentioned, such as "Stag," "Marine," "Scandinavia," and amber. This is a good example of a medium-priced ware which is worth inspection.

Bavarian Chinaware.

Among the Continental firms represented by Erwin Miller & Co., of Sheffield House, 310 Pitt-street, Sydney, are some devoting themselves to pottery.

Zeh, Scherzer Co., Rehau, Bavaria, are makers of chinaware, such as sets of jugs, tea and dinner ware, fruit plates, and so forth. New shapes and decorations are well to the fore, and a feature is that while the quality is good prices are exceptionally low.

Another agency is that of Porzellanfabrik Cortendorf, makers of hard fired earthenware ornaments. A special line includes a wide assortment of clock sets (comprising a clock and two vases to match). Ornamented with birds, foliage and figures, they are beautifully modelled, the colouring and finishing being also well done. Ash trays, powder boxes, flower vases, and other such lines are included in the display. The shapes and designs are away from the conventional, and prices are very low.

Royal Crown Derby Ware.

W. G. South & Cowan Ltd., 352 Kent-street, Sydney, who have recently been appointed Australian agents for the Royal Crown Derby Porcelain Co. Ltd., have received samples from their principals. A very pleasing display of the famous ware is made, the artists having gone to nature for their

subjects, and the drawing and colouring of flowers and fruit are tastefully and skilfully done. Especially noteworthy is the work of A. Gregory, who is responsible for some very pretty posy work.

A fruit tray attracts attention. Square shaped, with serrated edges, it has acorn handles and is richly treated with blue, gold and red. A tea service has a body of deep blue, embellished with raised gold. The banquet service made for the Royal Jockey Club (England) is simply but appropriately treated. A horse's head decorates the centre of the pieces, and there is a simple scroll round the edges.

Pot pourri jars, vases, boxes and miniatures for cabinets are in wide assortment. The last-mentioned includes cauldrons, kettles, coal scuttles, and similar articles.

Continental Glassware and Porcelain.

The Commercial Importers Ltd., of 141 Clarence-street, Sydney, Australian representatives of the Mjølby Crystal Works, Sweden, are showing a splendid range of cut crystal at competitive prices, including bowls and vases, and toilet table requisites. Artistic as to shape is a flower vase of sunburst pattern on a low pedestal. A basket-shape flower vase, richly and deeply cut, and bearing finely etched representations of roses, is very attractive. Deeply cut and finely etched, a rose bowl glitters under the electric light.

On behalf of Fr. Simon, Karlsbad, a fine showing is made of Karlsbader porcelain. One of the most striking lines is a tea and coffee set. The body is of deep blue, and in the centre is a reproduction of one of Rembrandt's well-known pictures, the border bearing a gold floral design on a blue ground. Then comes a band of snow white, followed by another gold band, then white, and gold festoons. The long-sided tray, tapered in at the ends, gives the whole an uncommon appearance. Stylish looking is a set on a chocolate ground, gold bands being broken with deep blue spots, supported by festoons of gold. This set, like the whole range, bears a picture by one of the early Dutch or Italian artists. Perhaps the richest looking of all is one deeply embellished with gold inside, the outside being divided into segments, alternately bearing a picture and a deep colour. Quiet, but smart looking, another is coloured a delicate pink, and there are dozens of other refined shades on view.

A Bohemian firm is represented by a display of table glassware of new shapes and designs.

The Continent and Staffordshire.

Mr. P. Clifton Jones, of Australia House, Carington-street, Sydney, has recently acquired several new agencies and received new ranges from his former principals necessitating an additional sample room in the same building. Arrangements have also been made for regular displays of samples at 30 Russell-street, Melbourne, and Bower Buildings, Charles-street, Adelaide.

Emerich Matejka, Czechoslovakia, have largely extended their lines of Bohemian crystal cut glass, which have come to be known on these markets as E.M.U. brand. This firm have extensive works in Bohemia and their products are well represented throughout Europe and South Africa. Powder boxes, trinkets sets on trays, sandwich trays, trumpet-

shape vases; also jugs, goblets and tumblers cut to match, are among the leading lines; but new to these markets are handled sweets, perfume decanters, peach melbas, rose bowls, spirit decanters, candles, etc. Several new designs are introduced, the glass is weighty, finely cut and beautifully clear. Buyers will appreciate the convenience of these makers' goods being quoted free on board Hamburg, free cases and packing. In association with the above are the works of Franz Scheibler, Bohemia, makers of gablonz, or small cut crystal glassware. Cruet sets of almost a hundred and one different styles are included in an extensive range. The regular boat shape is represented with three and five pieces, while fancy designs take the form of animals, fish, shoes, baskets, motor cars, etc., together with individual pieces of various sizes and shapes. Trinket sets are likewise in evidence, also gilt-mounted scent sprays, egg sets, fine sugar shakers, small vases and trays.

Porzellanfabrik Schonwald, Bavaria, Germany, with a branch factory at Arzberg, are noted for their dinner ware, a fine white china highly finished and comprising a goodly range of decorations. They also feature popular lines of hotel ware in plain white and with neat bands. Thin tea sets of twenty-one pieces with tall shaped cups, floral bands and other decoration is another speciality. The range also comprises fluted and decorated jugs, sugars, teapots, cheese dishes and standard lines of white and gold cups and saucers with sprig, both in thin and half-thick china.

The Arzberg factory of the Schonwald Co. produce fancy china of most every description. A range of open work or laced china plates, round baskets and oval dishes, can be supplied in either one or combinations, or upwards of a hundred different decorations—birds, fruits, flowers, figures, the Angelus and other scenes are included in the selection. One of their leading lines is a seven-piece salad set handsomely furnished with fruit decorations in natural colours, also similar sets in various lustre shades with and without floral embellishments. A novelty in this section called "series china"—shallow dishes or trays—of various shapes and sizes and other articles is most effective with bright pillarbox red base and sketchy white and black flower designs. Twenty-one piece tea sets, including teapot, sugar, cream, cups and saucers and plates, all to match, will be noted by buyers, also several nice lines of afternoon tea cups and the new bell-shape cups with smooth interior and ten-panelled exterior tastefully decorated.

John Beswick, Gold-street, London, England, are represented by a large collection of fancy earthenware, of which brightly-coloured vases, showing approved variations of popular shapes, decorated with flowers in brilliant colours, Japanese and other Eastern scenes, make an attractive display. Rose bowls, toilet sets, jardinières and cheese stands, all equally colourful, complete the range.

A newly-acquired agency is S. Winkle & Co., Norton Pottery, Burslem, England, whose works are confined to the production of teapots and sets. Besides the well-known Rockingham and Samian lines they show a large range of decorated teapots with blue, green and other coloured base bearing gold rims, bands and fancy designs. These can be had either separately, or sets, comprising teapots and stand, sugar, cream and hot water jug to match. Safety-lid teapots are shown in deep green shade, also in russet brown.

Bishop & Stonier Ltd., Hanley, Staffs., England, are represented by extended ranges of "Bisto" china and earthenware. Dinner services in powder-blue with gold embellishments of different designs are particularly fine and calculated to find favour. Less

attractive, but of equally fine quality, are plain white services with tea, coffee and supper sets to match. These combined sets can be obtained in a variety of different patterns. Toiletware, fruit bowls, vases, cheese stands and other fancy lines introduce new ideas and are included in liberal variety from these manufacturers.

The Willow Pattern Plate: A Phantasy.

Betty in the kitchen broke a willow pattern plate.
I spoke to her severely, but I spoke a moment late
To save those little people from a very dreadful
fate,
Whose fortune's told in blue upon the willow pattern plate.

Two blue little people came running together,
Across a blue bridge, in the sunshiny weather,
They run from a garden, where stands a blue tree
Above the blue house of a wealthy Chinese,
The one is a maiden, the other her lover—
A blue weeping willow hangs half the bridge over.
Behind, in pursuit, comes papa, with a whip,
But they're over the bridge, and aboard the blue ship

That her lover has moored by the strand of the sea—
With a shove off the shore, from his wrath they are free.

Now deep in the water the oars they are plying,
While high in the heaven the blue doves are flying.
To his blue island home her lover will wait her,
And there they will happily live ever after.

This is the story of the willow pattern plate,
So please be very careful—though it's only one and eight—

And remember that you have in hand a very precious freight
When you carry from the kitchen a willow pattern plate.

Iron Meteorite.

Some two years ago two boys cutting cedar posts in the State of Idaho, U.S.A., discovered what proved to be a meteorite, weighing about 250 lb. As to how long it had been there no one can say, but certain residents said they saw something fall some fifteen years before. The meteorite is now in the National Museum at Washington, where analysis of a fragment gave the following results:—

Insoluble	0.004
Iron (Fe)	92.374
Nickel (Ni)	7.038
Cobalt (Co) . . . . .	.273
Manganese (Mn)	None
Platinum (Pt)	None
Phosphorus (P) . . . . .	.280
Copper (Cu) . . . . .	.006
Chromium (Cr)	None
Sulphur (S) . . . . .	.016
Total	99.991

The almost unweighable amount of insoluble material was examined microscopically. It seemed to consist of a few grains of quartz sand, possibly derived from the grinding wheel. No graphite, chromite, or diamonds were present.

Make the Advertising Pay

A Page of Hints and Helpful Criticism

Send Us Your Ads ∴ Let Us Solve Your Problems

Newspaper and Outdoor Advertising.

Someone has asked us for an expression of opinion regarding the relative values of newspaper and outdoor advertising.

Now, this is rather a contentious subject and one upon which we prefer not to dogmatise, because so much depends on circumstances. However, one of the most prominent authorities in England maintains that newspapers afford the best opportunities for reaching the public; but he sagely points out that the advertiser must not forget that it is only white space that he buys from the newspaper proprietors, and any results he may get will be largely owing to what he puts into that white space.

Newspaper space is very costly, but it has a most important advantage in that the advertisement, if well written and well displayed, has the opportunity of conveying a very telling sales argument to the prospective buyer; whereas the outdoor advertisement—whether it be a poster, a street car board, or a painted sign—must convey its message with great brevity, because of the limited time (sometimes only a fleeting glance) at the disposal of the reader.

In laying out an extensive campaign it is generally advisable to carefully analyse the ability of each medium to reach the particular class of prospect to which the appeal is to be made. Then, having got your information, endeavour to plan in such a way as to co-ordinate both newspaper and outdoor advertising so that the prospect will be hit from all quarters.

Posters, show cards, etc., can be made very powerful if discrimination is shown in the selection and treatment of the subject.

While taking care to see that the artistic side is not overdone to the detriment of the selling power of the poster, by all means see that it fairly reflects the merit of the article it advertises. Endeavour to obtain simplicity that is sufficiently decorative to be striking and out of commonplace without pushing the article into the back-

ground. It is advisable to engage a first-class artist to make a design and not to worry over what

WYOMING RED EDGE SHOVELS

No. 121
Hollow Back
Square Point

We spent
40 years learning
to make one
red edge shovel

**This Outfit
Saves \$624
a year on Shovels**

WHEN telling a good Red Edge story, we like to give names and addresses. But in this case we promised not to. A company decided to test out our claims that a Red Edge does more work and better work and lives longer than any other shovel you care to name.

First, they ran an elimination contest among a number of other brands, the winner to take Red Edge on for the championship. Although the winner of the preliminary contest cost considerably less per dozen than Red Edge, that was the decision of the officials—

Red Edge lifted 34.7 per cent more tons per shovel than the "champion" and cost the Company \$52 a month less per shovel bill.

So far as this company is concerned, Red Edge is undisputed champion of the world. Whenever you use shovels (or hoes or rakes or any tool) will pay you to stage a contest between "the best shovel you ever used" and Red Edge.

THE WYOMING SHOVEL WORKS
WYOMING, PA.

he will charge for his services; if he be worthy of the job you will generally find that it is worth all he asks.

Having read an interesting and well-illustrated description of the improvements and all-round efficiency of, say, the "Kook-Kwick" gas stove, what could be more impressive than to see at all points of the compass a powerfully-drawn poster illustrating again, but this time in striking colours, the beautiful "Kook-Kwick"? And, be it remembered, the posters and car-boards are outdoors near where the shops are!

A Good Advertisement.

We reproduce here an attractively-arranged advertisement that appeared in the "Saturday Evening Post" last November. It occupied a full single column.

Note how prominently displayed is the shovel and the name "Red Edge." With so much black at the top the advertisement might easily have been top-heavy and disjointed, but the black line running the full length has effectively tied it together, besides emphasising the name "Red Edge."

As to the truth of the story, the reader must use his own judgment. At all events it sounds possible.

Writing Advertising Matter.

There is a great tendency with those who are inexperienced in the writing of advertising matter to believe that cleverness, exaggeration and flowery-phrased generalities are the most desirable things to include in an announcement. As a result hundreds of pounds are wasted annually by the use of advertisements, which, though they may be clever in illustration and object lessons in word building, are wholly irrelevant to the subject in hand, and so useless as factors in promoting sales.

Advertising as Business Insurance

Judicious advertising establishes prestige and fixes demand on an enduring basis. It establishes acquaintances, and unexpectedly produces results after many years. The dominant value of advertising exists in its visualising educational power. Time is essential to all permanent growth. It requires continuity of effort for advertising to gain maximum momentum and to permanently achieve its mission. The logic which impedes the insurance policy holder to "keep up" his payments may well be applied to advertising in its function as business insurance.

It would be wiser for a man to forfeit his insurance one year and buy a new policy the next year than for a representative business institution to play an "out-and-in" game in advertising. — Selected.

News from Abroad

Motor Vehicles in Great Britain.

Since 1922 the number of motor vehicles in Great Britain has almost doubled—from 975,783 to 1,888,726, bringing a corresponding increase in the amount raised from the taxes, while horse-drawn vehicles licensed have decreased by more than half—from 232,865 to 102,591.

British Company in India.

Dorman, Long & Co. Ltd., of Middlesbrough, are establishing a branch in India, where their steel is largely used. According to trade exchanges, Sir Arthur Dorman, the chairman of directors, was to leave for India in connection with this extension before the end of the past year.

Direct Production of Iron and Steel.

A Swedish company is to be formed with share capital of nine million kroner, to take over the whole-world patent rights of the Flodin method of the direct production of rust-free iron and steel, which is claimed to enable direct production from the ore without the intermediate stage of pig iron. It has been demonstrated to be completely immune from rust, and its quality is said to be comparable with the best Lancashire, Bessemer, and Martin product.

British Industries Fair.

According to reports cabled to Australia on January 22, all the space in the London section of the British Industries Fair to be opened at the White City in February had been taken by manufacturers, and the Department of Overseas Trade had announced the formation of a waiting list for the fair of 1929. The acceptances from overseas buyers to the Government's invitation to the fair show an increase of more than 100 per cent. on those received at the same stage last year. A record number of buyers is coming from 67 countries.

A Record, Surely.

Mr. John Hughes, whose death is reported from England, at the advanced age of 91 years, had spent 82 of these in the service of the one firm—George Salter & Co., scale and balance makers, of West Bromwich. Beginning as an errand boy at nine years of age, he finished up as general works manager, and put in a full day week by week until he was taken ill in September last. Towards the end of 1926 he was entertained and presented with a clock by Miss Salter on behalf of the firm. He then said that after his day's work his wireless and a book by the fireside quite satisfied him and that he had no need of outside entertainment.

Hydro-Electricity in Switzerland.

What will be the largest hydro-electric undertaking in Europe is now under construction in Switzerland. It will involve an expenditure of some £3,300,000, and is expected to be completed by 1932. The money is being provided partly by the Government of the country and partly by private capitalists. A tunnel over three miles long connecting two lakes has already been driven, and dams and power stations have to be constructed. There will be three plants at three different levels—6100 ft., 4500 ft., and 2933 ft.—and the combined capacity will be something like 300,000 h.p. Under this scheme it

is anticipated that electric current will be supplied at less than a half-penny per kw. hour.

Local Trade Prejudiced.

The seriousness of the increasing practice among farmers of taking out general dealers' licences in order to procure their supplies at wholesale prices from the coast, thus passing by the local tradesman, was discussed at a recent meeting of the Graaff-Reinet Chamber of Commerce. Various suggestions to meet the complaint, which was said to be fairly general in up-country towns, were made, such as a boycott of wholesalers who deal direct with persons who are not genuine traders, or to bring pressure on local authorities to refuse the issue of licences to ungentle traders. But eventually it was decided to take the matter to next congress, and circulate all Chambers in up-country towns for support.—"Industrial and Commercial South Africa."

Canadian Production of Gypsum.

Gypsum production in Canada advanced to a new high mark in 1926, according to finally revised statistics. Increases in tonnages shipped were recorded in all producing provinces except New Brunswick. The total production for the year was 883,728 tons, worth 2,770,813 dollars, as against 740,323 tons at 2,389,891 dollars, produced in 1925. Canadian crude gypsum exported, principally to the United States, amounted to 668,064 tons in 1926. Ground gypsum and prepared wall plaster exported during the year totalled 10,062 tons. United States, Newfoundland, Australia and New Zealand were the principal importers of these materials. Capital employed in this important Canadian mining industry in 1926 was reported at 6,696,077 dollars.

Getting Together.

An important lead in the direction of industrial peace has been given by the Imperial Chemical Industries, who control over 40,000 men, and whose plans for co-operation between employers and employees were announced recently by Sir Alfred Mond, the chairman. One of the important factors in the scheme is a programme of co-partnership which will allow employees to obtain shares in the combine at 2/6 below mean market price, which is about 30/9 at present, with additional free shares graduated according to earnings. The company have formed a Central Labour Department under Mr. Henry Mond, which will deal exclusively with questions affecting the relations between the company and its workers. This department will secure the necessary interchange of views between those who frame the policy and those who execute it.

Death of Mr. Edward Steer.

Until May last chairman of Guest, Keen & Nettlefolds Ltd., Mr. Edward Steer died early in November, aged 76 years. A son of Charles Steer and Martha Nettlefold, and a cousin of Joseph Chamberlain, the late Mr. Steer joined his uncle, Joseph Nettlefold, at 17 years of age. When Mr. Chamberlain retired from the firm it was registered as Nettlefolds Ltd. In 1900, consequent upon an amalgamation with Guest, Keen & Co., came the present company, Guest, Keen & Nettlefolds Ltd., and Mr. Steer, who was on the directorate, became chairman in 1920. Because of the state of his health he resigned in May, 1927, and was succeeded by Lord Buckland. He was a director of various other companies and had been a justice of the peace for many years.

In this part of the world Guest, Keen & Nettlefolds Ltd. are represented by Mr. J. K. Merritt, of Melbourne.

Bank Loans and Deposits

(By Examiner, 22/222.)

Some very interesting reflections are aroused by a recent summary of Australian conditions by one of the great banks. *Inter alia* the writer says, "There is a limit to the lending capacity of banks just the same as there is of individuals. They cannot lend more than they have. A bank's ability to lend is practically governed by the aggregate amount of its deposits. As these expand so will the bank be able to make additions to its loans." The writer's view of what a bank does reduces it to simply a receiving of money from its depositors and a lending out of the same money to its borrowers. This is too simple to explain the enormous figures to which modern banking advances and deposits have expanded.

The Evolution of Banking.

We read that the Bank of Amsterdam was founded in 1609 to meet the convenience of merchants who sold goods for various kinds of metallic money, of many sizes and values. The bank was to receive these various kinds of money, standardise them into a uniform "bank money," and issue to the depositor a "bank order" or draft upon itself for the amount of the money deposited at first. If a merchant wanted to make a payment to a creditor, the two men went to the bank, and on surrender of the order, a transfer was made from the account of the merchant to the creditor, or the latter withdrew the standardised money. The foundation principle of the bank was that the amount of money in its safe always equalled the amount of deposits in the ledger. The bank did not make any money at the business. It acted as a warehouse. After some years of experience the bank officials found that the convenience of the bank was so great that a great deal of the money deposited with them never was withdrawn; that the bank order circulated instead of the money.

Deposits Without Lodgment of Money.

Under pressure of the Government, officials broke the foundation principle of the bank. They gave bank orders representing deposits for money that had not been lodged. They allowed the "deposits" to exceed the money in the safe. This was the foundation of modern banking; and to-day every bank might write over its doors the sign "Here we give you deposits without requiring you to pay in money." They could safely do this because experience had proved that the convenience was so great that many of the orders were not presented for payment in cash; they circulated as money. Before long the London Goldsmiths also found that they could make loans at interest by acknowledging that a person had a deposit with them when in truth he had none, by, in short, substituting their credit for his.

What Does a Bank Lend?

These simple historical facts enable us to see more clearly what a bank really lends. Although a loan is always given in terms of money, it is not in actual practice made with money. If there were no restriction upon the issue of notes, and if deposits had not been invented, loans would be the promises of banks printed on pieces of paper. But as legislators failed to see that deposits are identical with notes—both promises to pay money—they have legislated bank notes out of existence, and loans are made with deposits—promises to pay recorded, not on pieces of paper, but on the pages of a bank's ledger; and these deposits circulate just as notes circulate from debtors to creditors, and from creditors to banks. Hence the im-

portant fact evolves that a bank lends its promises to pay, and to pay on demand; and it exchanges these promises to pay on demand for its borrower's promises to pay at a later date; and as promises to pay on demand are of more value than promises to pay in the future, part of bank interest is accounted for in this difference of values.

The Function of Legal Tender Money.

All modern banks are founded on the principle that of the promises to pay issued by them only a proportion will be presented for payment in cash. Hence the practice of holding such and such a ratio of cash to liabilities. Suppose a safe ratio is considered to be 25 per cent. of cash to liabilities, the bank may have four times the amount of its cash holding in its promises to pay that are outstanding. And if a fresh deposit is made in actual cash, such cash will be available, not so much to be lent out again at interest as an addition to the cash reserve against which the bank can issue—if the moment is opportune so many more of its promises to pay. Hence to say that "banks cannot lend more than they have" seems to be founded on an incorrect view of what modern banking really is and what a bank really lends.

Banks Intermediaries Between Debtors and Creditors.

The only satisfactory explanation of the enormous figures of modern banking is that banks are intermediaries between debtors and creditors. They become debtor to certain people on terms of another becoming debtor to them. The borrower asks the bank to give him credit—the bank's promises to pay on demand—in order that he may satisfy his creditors on terms of his becoming debtor to the bank. The bank agrees and he pays his creditors with the bank's promises to pay (deposits) and he substitutes the bank for them—for his creditors. Thus both deposits and advances are created by the transactions. And although obviously some deposits have their origin in other directions, still this process of substitution accounts for the great bulk of modern banking deposits; and they have all grown out of the simple fact found out by the Amsterdam and London bankers long ago that a bank's promise to pay is just as good as money, so long as people have confidence in it.

What Governs the Bank's Ability to Lend?

A bank's ability to lend appears therefore to be governed by its holding of legal tender money; and assuming it has sufficient legal tender money, the next important factor is the mind of the banker. If he thinks the outlook good, if he is in optimistic mood, he will be willing to extend his advances, i.e., to assume the liabilities of his would-be borrowers on terms of their becoming liable to him. If he thinks the outlook bad, if he is pessimistic, he will have none of them. On the contrary, he thinks his promises to pay outstanding are excessive; and to strengthen his position he insists on his debtors getting hold of outstanding promises to pay (deposits) and cancelling them by applying them to liquidate the debts. Just as the making of advances created deposits so the liquidation of advances cancels deposits. Thus do the two fluctuate in sympathy. And the cancellation of the outstanding deposits increases the ratio of cash to liabilities, which is the banker's aim in times of stress.

The fact seems to be therefore that one cannot compare the lending capacity of banks with that of individuals: they are incomparable. A bank's ability to lend is governed by its holding of legal tender, and its willingness to lend by the banker's state of mind. Bank advances create bank deposits, and to make fresh advances dependent on fresh deposits is, generally speaking, to put the cart before the horse.

Interstate General News

Woolworths in Brisbane.

Woolworths Ltd., who, about the middle of last year, purchased the business of Shaws Ltd., Granite Buildings, Queen-street, have now bought the Queen-street frontage of the warehouse of Alex. Stewart & Sons Ltd. The premises are at present occupied by the A.C.B. (Brisbane) Ltd., but will be vacated by about the end of April, when extensive alterations will be carried out, to render it fit for occupation by the new landlords.

Popular Lines and Heavy Rent.

Brightlights, Strand Arcade, Sydney, cash and carry stores and general merchants, whose stocks comprise a very considerable number of popular household hardware lines, have secured a seven years' lease of the premises recently occupied by Stewart, Dawson & Co. (N.S.W.) Ltd., jewellers, on the corner of George-street and the Strand Arcade. We understand the rent to be paid is in the vicinity of £100 a week.

Long-Distance Telephony.

The Commonwealth Postmaster-General's Department advise that the telephone trunk line service between Melbourne and Adelaide has been greatly improved. Between the hours of 8 a.m. and 7 p.m. the charge for a three minutes' conversation is 4/8, which charge is cut in half for night conversations. Sydney is already in effective telephonic communication with Melbourne, and before long the connection between Sydney and Brisbane will be brought up to the same satisfactory level. Between Melbourne and Brisbane the corresponding charges are 10/- and 5/-.

Burglaries.

On January 20 a fire-proof safe weighing 4½ cwt. was removed bodily from the premises of the Moreland Metal Co. Ltd., 596 Little Bourke-street, Melbourne. A heavy motor lorry was used for the purpose. Next day the safe was found on the Footscray-road, near the Saltwater River. The heavy iron door had been completely blown off and the contents of the safe—£25 in money, a gold watch and a ring—extracted.

The warehouse in Maffra-street, South Melbourne, of Brooks, Robinson & Co. Ltd., was entered on the Sunday afternoon following. Fortunately there was a man in charge, and after a sharp run, he overtook the intruder, a youth of sixteen, who, after effecting an entrance, had smashed the door of the office and forced various desks. He was handed over to the police.

Notes from Christchurch, N.Z.

At a meeting of the Conciliation Council, held in Christchurch, this week, Mr. W. Cecil Prime, secretary of the Canterbury Employers' Association, made a considered statement of the attitude of employers generally towards the present industrial situation. He stated that the time had come to call a halt in the hitherto almost unbroken rise in the scale of standard wages. He suggested that the workers' unions refrain for a period from seeking concessions in standard rates of money wages and the employers would refrain from seeking reductions. This statement was made because of a sin-

cere conviction that money wages could not be increased without danger to the whole community, and because of an equally sincere desire that wage-earners should not have their standard of living reduced.

The Christchurch Port and City Committee is asking for definite data from city firms on the economic aspect of the tunnel road proposal to provide direct access to the port of Lyttelton by means of a tunnel road to Christchurch. It is aimed also to reorganise the port to provide transit sheds on the quays into which steamers could discharge direct and from which importers and exporters could handle their shipments directly alongside the steamer, and thus eliminate the present unnecessary handling.

Fires in Queensland.

On the night of January 6 the warehouse of Webster & Co. Ltd., general merchants, Mary-street, Brisbane, was found to be on fire. Despite the early arrival of the fire brigade, with the assistance of eight reels, the building and contents were absolutely destroyed. The stock comprised hardware, groceries, stationery, paper and twine, fancy goods and wines and spirits. Mr. F. H. Webster, managing director, estimated the value of the stock at £80,000, and the building at £40,000. The building was very fine and will cost a good deal more to replace.

A well-known landmark of Mossman was destroyed early on the morning of January 6, when Mr. George Brackenridge's store was burnt to the ground. The fire, which occurred about 1 p.m., was first noticed by Constable Doyle, but had secured too much of a hold for anything to be saved. The plumber's shop of Mr. W. Viner was also seriously affected. A residence on the northern side of the store was gutted. The damage is estimated at £2,000.

On January 5 a fire broke out in the store at Avon of Williams & Hunt, which was soon in ruins, together with the premises of B. S. Donovan and J. Byers. The fire is supposed to have originated through the fusing of the electric wires in the roof. The premises of Lennons Ltd., situated on the other side, were only saved by the brick wall and the strenuous efforts of the bucket brigade. The insurances total between £9,000 and £10,000.

Building Programme in Brisbane.

The forecast of Mr. J. V. D. Coutts, secretary of the Institute of Architects, that 1928 will probably constitute a building record for the City of Brisbane, seems likely to be realised. Some big structures will be commenced, the principal of which are:—

New Roman Catholic Cathedral ..	£500,000
Commonwealth Bank	200,000
Commonwealth Offices in Anzac St.	170,000
Masonic Temple	120,000
Temperance Hotel, Ann-street .. .	87,000
J. C. Williamson's New Theatre ..	70,000
National Bank of A/asia Ltd. New Head Office	65,000
New Premises for W. D. & H. O. Wills (Aust.) Ltd.	56,000

Warehouse for Heindorffs Ltd. . .	50,000
Offices in Elizabeth-street for Dr. J. O'Neil Mayne	30,000
Redemptorist Monastery, Oxford Park	20,000
New Trocadero, Kangaroo Point ..	20,000
Congregational Church, Adelaide-st.	17,000
Parking Station and Garage, Collins House	19,000
Teachers' Union Building, Elizabeth-street	10,000
New Arcade for T. C. Beirne & Co. Ltd.	10,000

Many of the above will take several years to complete, most of a decade in the case of the R.C. Cathedral. In addition to this imposing list, a number of important structures will be completed during the current year, including the new premises for the Banks of Australasia and New South Wales, and National Mutual Life Chambers.

Roma Oil Bore.

The developments at this centre are of great interest, not only to Queensland, but to the whole of Australia. At the end of December the representatives of the Roma Oil Corporation Ltd., Dr. Woolnough (Commonwealth Geological Advisor) and members of the Queensland Oil Board were meeting at Roma to look into the whole matter. As a result the abridged report of Dr. G. Woolnough is of special interest:—

"The investigations at Roma have shown that the reported discovery of oil in the company's bore is genuine, and of great importance. The bore has brought to light a very large supply of petroliferous natural gas, equal to 1.2 pints of petrol to each 1000 feet of gas; and the further great discovery of liquid natural oil. This is the first occasion in the history of Australia that such products have been brought to light in quantities, and of a quality adequate to inspire confidence in the future of the research for crude oil."

Dr. Woolnough expressed the opinion that the real significance lay in the fact that there was now definite evidence of oil formations on a very large scale in that part of Queensland. Further operations must resolve themselves into a search for the still unknown oil pools, whence the locations at Roma, Longreach, Ruthven and elsewhere had been derived by migration through the rock formations. Such pools might lie at a greater depth below the proven light oil at Hospital Hill, Roma, or they might exist at some distance away in any direction. It was obvious that the No. 2 bore on Hospital Hill must be tested to a depth as deep as the drill could go, to determine whether oil sands lay beneath the one which was now producing gas and "white" oil. The existence of several oil sands vertically is by no means an uncommon occurrence in oil fields. Regular tests are being carried out on the No. 1 bore, which up to January 17 resulted in 1433 gallons of natural oil being recovered, representing ten per cent. of the fluid discharged from the hole.

Messrs. F. Timburv and D. Evans, the head driller, are now visiting America with a view to making a thorough investigation of the latest oil producing methods, up-to-date machinery and field plant. As a result of samples and details submitted to experts, the opinion has been freely expressed that the discovery is very valuable from an oil-producing point of view.

Shark Fishing in Australia.

The shark fisheries recently established in Australia are of economic importance in two ways—positively by making available various useful products from the body of the animal, and negatively by removing from coastal waters the greatest enemy of the food fishes, and thus improving the supply of the latter.

Experience gained at Port Stephens, in New South Wales, by Marine Industries Ltd., goes to show that the capture of sharks from shore stations will be irregular during some periods of the year at least. The sharks appear to move in schools from one place to another, and the better plan may be for the fishers to move with their prey. That is to say, establish a depot vessel on board which the dead bodies of the sharks can be treated, with small boats to do the actual killing and collecting. Instead of being towed ashore, the dead shark would be towed to this vessel in the same way as were the larger "kills" in the old days of the Greenland whale fishing.

In the experience of the company fore-mentioned, the most prevalent shark is the "whaler," followed by the "grey nurse," the "tiger" shark, and the "white" shark. The greatest weight of shark captured in one day by this company is given as 15 tons.

Practically every part of the shark's body is utilised. The fins, which find a ready sale in the East, are first removed from the carcass and then dried in the sun or in a patent dehydrator. Next the skin is stripped from the carcass and the adhering flesh trimmed off. After trimming, the hide is washed with salt water and then placed in a heavy brine concentration for some days, after which it is ready for the tanners. The skin is covered with great numbers of denticles, known collectively as shagreen, and these must be removed before or during tanning. If the leather is required for other than ornamental purposes, they are usually dissolved in a solution of hydrochloric acid and salt. The actual tanning of the hide does not present any special difficulties, and when properly carried out, the resulting leather is very durable. Its uses are very varied, and it makes an excellent shoe leather. A Sydney manufacturer of high-class shoes has pronounced the samples of shark leather to be very fine indeed. A ton of shark yields about 90 sq. ft. of leather.

The flesh of the shark is also being utilised, and when dried is shipped to the Malay States or Africa, where the demand for dried shark fish for food is enormous. Another by-product is oil extracted from the liver, which in all species is relatively very large. The liver of a 13 ft. "tiger" shark captured by the company measured 7 ft. long and weighed 200 lb. The proportion of oil to the weight of the liver varies very greatly with the species and also with the age of the same species. Yields computed from a large number of mixed sharks treated show that 28 per cent. of the weight of the liver, or 18 gallons to a ton of shark, is recovered as oil. Shark liver oil is used for the currying of leather, the tempering of steel, and in soap-making. If extracted from perfectly fresh livers it will probably be extensively used for medicinal purposes, for it is very rich in vitamins A and D, on which cod liver oil is principally dependent for its great therapeutic value.

It Didn't Matter.

She strolled into the gunmaker's shop to buy a revolver, adding, "It is for my husband."

"Did your husband stipulate the make of revolver?" asked the salesman.

"Well, I don't think it matters," she replied; "he doesn't even know I'm going to shoot him."

The Ironmonger and Chain Store Competition

(Contributed by 43/220.)

We have seen that the chain stores compete with the ironmonger by using modern methods of advertising and display, as well as by every legitimate artifice which can possibly influence sales. Many hardware stores display less than a hundredth part of their lines. Those which are displayed are placed anywhere, often in an indifferent light, and without any plan whatever. Many still retain the ancient "private mark" for pricing, when every article should be marked plainly.

One of the problems for hardware dealers is the woman shopper. While women are interested in domestic wares, and will ask for them, it is seldom indeed that the housewife inquires for tools in the ironmongery shop. But in the chain store women are large buyers of small appliances such as hammers, screwdrivers, and pliers. The reason is that the sight of the articles reminds her of a need. Without result she has probably urged her husband again and again to bring home, say, a gimlet. She is now able to place this useful implement before him, with a few well-chosen remarks about his neglect. It is quite certain that since the advent of the variety store women have been induced to purchase such tools in thousands. They will buy tools if they see them.

Where men buyers are concerned goods must be well displayed, with prices plainly marked. Thousands of men will not enter a store until they see the article they want, preferring to choose from the window. They hate being fussed over, and shopping to some of them is almost a torture. Women like to make a selection, but men abhor the necessity. The drapery houses learnt this lesson long ago. It is an axiom that the men's wear department must be on the ground floor, and easily accessible. Men will not wander through a maze to reach what they want. Every step in the direction of freedom of access and ease of buying is valuable. Customers like to handle and inspect goods without hindrance. This has been abundantly proved. The following rules, laid down by investigators, are based on actual tests and observations over a long period:—

1. Customers examine and purchase more goods if they are not worried or urged to buy.
2. They examine more, and buy more when goods are displayed on tables instead of counters.
3. They buy more quickly and more certainly if they see other people inside the door when they enter.
4. Anything displayed in an original way brings better results.

The value of a busy appearance within the store is undoubted. This may be secured by setting out a few bargains just inside the door, and any advertising should include mention of these special lines. The suggestive value of the sight of others buying is one of the best possible aids to sales.

It was found after repeated tests that buyers prefer tables to counters. Goods identically the same were placed, with prices, on both counters and tables, equally accessible. While those on the

tables had to be replaced time after time, the same lines remained on the counters almost untouched.

It will probably be objected that selling methods and display ideas are all very well, but how are the customers to be brought into the store? The variety stores are crowded with prospective buyers, while many of the legitimate hardware houses are empty. How are the public to be attracted, or lured back to their allegiance?

The question is quite fair, but it is just here, as indicated in last month's issue, that the ironmonger has allowed the opposition to steal a march on him. Advertising and display in their various forms, the use of every channel and angle of publicity—these are the methods which have in a few years transformed petty traders into monster organisations, involving astounding concentrations of capital in comparatively few hands. It is unbelievable that the hardware trade is not capable of using the same means. Some firms have already done so, and make no complaints about business. Ironmongers specialize in utilities which are necessities in every house and in every building in the land. But how many can point to a properly-dressed window?

Some suggestions about window display are given below. They are not new, but one seldom sees them put into operation by the hardware store. From the pen of Herbert N. Casson, the well-known writer on these subjects, they were recently printed in the "Beacon Service Journal," the house organ of Smith & Davis Ltd., of Birmingham:—

To make windows attractive you must have something interesting, and the best way to do this is to follow the news.

Put things in your windows that people are thinking about.

Many a shop makes itself a laughing stock by keeping out-of-date stock in its window. Goods out of season are absurd.

Most goods are seasonal. Nearly every article sells best in a certain month; and during that month it should be in the window.

Follow the advertisements, as well as the news. If a manufacturer pays a large sum for an advertisement, and if you have his goods for sale, cut out the advertisement, frame it, put it in the window with the goods around it. Get all the benefit you can out of other people's expenditure. It is amazing how few retailers do this.

In the case of news, it is advised that any important item should be used, always having something in the window that people were talking about at the breakfast table.

A very simple thing that is timely, is more effective than a costly and elaborate display that no one is thinking about.

Within the store, attention should be given to the proper grouping of goods. Each class of hardware should be kept in its own section. If I am interested in axle pulleys and sash fasteners I expect to see the various qualities and grades side by side, to enable me to select what I want speedily. The matter of pricing is important. It is exas-

perating to have to ask for the information. Plain prices save time for both salesman and buyer, and inspire confidence. People have come to suspect private marks and hieroglyphics. The old system of choosing a word of ten letters was obsolete years ago. Most of the words in use are common property anyway, the only advantage being that the regular customer is probably able to read the cost of the article for himself!

Sales are often lost through the failure to maintain stocks. There should be a definite plan for keeping track of goods which are running low. One of the best ideas in use is to issue printed slips to salesmen. A handy form reads:—"I lost a sale to-day through the following article being out of stock:—". At least it should be impressed upon each employee that short stocks must be instantly noted, and someone be made personally responsible for attending to the need daily.

In stores where orders frequently come by telephone, this source of business should receive the closest attention. It is worse than useless to allow a junior to take these orders. In houses where such inquiries are constantly received it is found necessary to allot this work to the most capable hand in the place. He should have an intimate knowledge of stocks and prices, and be able to give information on the spot. The assurance that telephoned orders find prompt and careful attention opens a valuable avenue of increased turnover. Whereas the customer who calls at the store to buy can choose for himself, the one who "rings up" depends upon the supplier to give him honest service, and pays a compliment to the organisation. If he finds he can rely on quick and intelligent handling of telephoned requirements he will be encouraged to extend his business, and big accounts have been built up in this way.

In other parts of the world the telephone is used on a scale of which few in Australia or New Zealand have the least conception. When a line is opened, which is in steady demand, why not ring likely buyers, and acquaint them with the fact? Many a client may be pondering at that moment where he can obtain the very goods you have just uncovered. An order may even be secured by giving this information when a shipment is landing. How often a customer is heard to say: "I didn't know you had that line. I only bought last week from So-and-so," or "I never thought of you; would have been pleased to hand you the order."

Many of these matters are merely aids and hints in the direction of grasping every advantage to increase business. The principal thing is to see that we are not running along in old grooves, failing to sense the trend of modern ideas in selling and display. The big department stores have simply cut out and isolated many important hardware concerns through superior intelligence in marketing. It rests with the old-established businesses to see that a few of these great organisations do not gradually draw the entire supply of commodities within their all-embracing tentacles.

In "Looking Backward," Edward Bellamy foresaw the growth of the big stores. He predicted that in the year 2000 these would reach such proportions that they would control every branch of supply, and eventually have to be taken over by the State, by which means a form of socialism was foreshadowed. If this be a possibility, although few of us desire it, it can only be avoided by individual concerns, with the requisite courage and vision, bringing their methods up to date, and re-organising to such purpose that they secure their full share of the trade of their territory.

If I were asked what is the first step for the individual to take in this direction, I should suggest that he forthwith visit the large stores in

person, and study their ways. One business man to whom this was mentioned, remarked that he had no time to waste upon those competitors who were merely interlopers in the ironmongery field. While this independent spirit may commend itself to some, it will recall to others the fable of the bird which renders itself an easy prey to its enemies by hiding its head in the sand and refusing to face facts.

A surprise is in store for the man who for the first time walks through the floors of certain establishments in Bourke-street, Melbourne, or Chapel-street, Prahran; in George or Oxford streets, Sydney, or Fortitude Valley, Brisbane. Here he will see stocks of a magnitude he does not even remotely imagine, and methods of handling and selling which cannot fail to impress the discerning mind.

Sheffield and Australia

Mr. H. G. Howson, a partner in Harrison Bros. & Howson, of Sheffield, has arranged to settle in Australia, where he will look after the interests of the firm throughout the Commonwealth and New Zealand.

Last year Mr. Howson visited Australia, travelling over the entire continent from North Queensland to Western Australia. He was so impressed with the importance of this market that on his return to Sheffield he prevailed upon the firm to make adjustments in certain cutlery and E.P. products to suit local conditions. In a few months samples of these will be displayed throughout both countries.

Speaking to a representative of this journal, Mr. Howson said there was a distinct improvement in the trade of Sheffield, and he was pleased to find a determination on the part of consumers to buy a better quality article than had been the case for the past two or three years. They were ready to pay the extra price. This applied especially to stainless cutlery, of which, unfortunately, a large quantity of very poor grade had been sold.

Such inferiority, he considered, was at the bottom of the many complaints made by users that "stainless knives won't cut." The ordinary steel knife was cleaned daily and this of itself was sufficient to maintain a fair edge. Good quality stainless cutlery, properly ground, could be kept sharp with the ordinary table steel; used a little and often. But knives must be correctly ground in the first place. It was much cheaper to produce a stainless knife which was only machine ground and not hand finished.

While grinding machines were applied to the cutlery industry, at the moment there was no machine to grind a blade efficiently without the addition of hand finishing. Hand work was more expensive than machine work, and this accounted to a great extent for the difference in price in the various kinds of stainless cutlery.

Mr. Howson emphasised the fact that Sheffield firms who have established a name for high-class cutlery in the past cannot afford to jeopardise their reputation by producing a knife that "won't cut."

Regarding electro-plate Mr. Howson said that England was decidedly returning to this material, the trade in which had been for a time somewhat prejudiced by crystal glass and other ware. His firm were large makers of E.P. ware and had the honour of supplying the cutlery and spoons and forks for Canberra, the Federal Capital.

Mr. Howson, with Mrs. Howson, will be located in Sydney. The representation also of the tapes and rules of James Chesterman & Co. Ltd., another Sheffield firm, will be in his hands. The Victorian agency for Harrison Bros. & Howson has recently been entrusted to Mr. George H. S. Hoos, of Carson-place, Melbourne.

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.
For English prices, see The Month's Cablegrams on page 52

Sydney, February 1, 1928.

In some respects trade experienced a marked diminution covering certain lines, and it was difficult to explain the reason. Once, however, the selling staff got into the country, a splendid recovery made itself manifest. In some districts rain has benefited the farmers, and this is reflected amongst the storekeepers, so much so that it is felt the fears of a bad three months will not eventuate. While list quotations have remained as last issue (with only minor alterations), there is justification for the belief that some variations may take place in consequence of large stocks. Galvanised sheets, both plain and corrugated, are well held, and distribution is steady, but no large transactions are traced. Tin has shown a fall in price, and demand is likely to eliminate the possibility of heavier falls. Tinplates, I.C. coke, are well held, and both merchants and manufacturers report no anxiety regarding shortage for the immediate future. Turpentine and resin have gone into distribution regularly, and there is more on hand than was anticipated, although as the new season pack will not be available until May-June, 1928, shipment, this need not cause any comment. King's Windsor plaster—"Diamond"—sold readily in parcels, and whiting had a general demand. Metal manufacturers have covered for indent requirements for some months ahead with confidence that stocks will be well bought and arriving at suitable opportunities. Bluestone and strychnine have been quiet, no business of any moment being reported as is usual at this period of the year. Jute fabrics have shown very little activity, and the month's trading has not been large. Smaller storekeepers and suburban traders have felt the effects of the retail storekeepers' city sales campaign, which brings money into the city to the temporary detriment of the suburban trader. This position, however, is an annual complaint, and amongst suburban storekeepers a general belief is prevalent that trade will improve for the month just commenced. The financial position makes money purchases widely spread, and orders consequently are kept down to the smallest quantities.

Auckland, Jan. 20, 1928.

Since our last report, and on the opening of the New Year, hardware trade both in town and country has been steady, but so far no appreciable improvement has been shown. The dry weather conditions is having an adverse effect in the country, where much depends on the dairying industry. Prices of wool and butter have produced a more optimistic feeling in trade generally, but so far it is not much reflected in the business transacted. General inquiries show some improvement. In the city building shows some activity in business premises, but residential building shows little change. Prices remain very much the same. Galvanised corrugated iron has been reduced £1 per ton, and is now quoted at £28 for first grade qualities and £27 for second. Plain galvanised iron has also shown a fall of £1 per ton. There is a fair demand for all sizes of galvanised water pipes on account of the very dry season. Stocks are not heavy, and prices are being maintained. Ingot tin is easier at 2/10 per lb. Pig

lead is now commanding £32, while sheet lead is quoted at £38/5/-. The painting season being now on calls for a fair quantity of materials, and linseed oil is firm at 5/- for raw and 5/2 for boiled. Castor oil has been in short supply, but shipments just to hand will relieve the shortage. White lead is quoted at 54/- and 53/- for first and second qualities respectively, and fair business is reported.

Christchurch, Jan. 18, 1928.

Following the hurry and bustle of Christmas shopping, comparatively little business has been done since. Many employees of firms, including the principal executives, are on annual holiday. As usual in a period of slackness the big drapery firms hold their clearing sales of left-over seasonable stocks, and this further affects other interests like hard-

NEW ZEALAND PRICES.

	Duty.	Auckland. Jan. 20	Christchurch Jan. 18	Dunedin. Jan. 19	Wellington Jan. 30
IRON—					
ar—		£	£	£	£
English ...	Free	21	22/	22/	22/
Shoeing ...	"	23	23/	23/	23/
Steel ...	"	15/10 to 21/-	20	22/	16/ to 22/
Pig ...	"	8	10/6	10/6	9/- to 10/-
Plate ...	"	21 10/	24/	25/	22/ to 24/
Hoop ...	"	24/ 35/	25/6, 37/6	32/	25/ and 35/
Sheet, Blk.	"				
to 20-g. ...	"	23 10/ 24 10/	25/6	26/	24/6 to 26/6
22 & 24 g.	"	25 10/	28/6	28/	26/6
Galv. Cor.—	2/-				
First ...	"	28	30/ Builders	30/	29/
Second ...	"	27	28/-	28/6	28/
Local ...	"	28			
Do., Plain	Free				
24 & 26 g.	"	30/ 31/	31/ 33/	35, 37, 39	26
Pipe—Galv.	Free	45/	47 1/2 off	42 1/2 off	42 1/2 off
Black ...	"	50/	50 off	50 off	50 off
Wire—	"				
Galvd. ...	"	15/6, 18/-	16/	16/6	17/6 to 18/6
Black ...	"	16/-	16/	16/6	
Barbed ...	"	21, 23 10/	21/-		22/ to 23/
Nails ...	2/4-c	20/6	22/6	24 to 23	22
N.Z.	"	20/6			22
Lead—Pig	Free	32	33/-	45/	35
Sheet ...	"	38 5/	38/-	45/	42 1/2
Shot ...	10/	75/	75/	80/	75/
Tin—Ingot	Free	2/10	3/2	3/2	3/4
Plates	"	32/6, 48/6	40/	40/	37/6
Zinc—Sheet	"	7 1/2 lb.	9d. lb.	8 1/2 d.	8 1/2 d
Quicksilver	"		6/6 lb		
Cement—					
Imported	1/- cwt.		22/6 cask		
Local bag	"	5/8	7/-	6/	5/11
Slates ...	Free				
P. of Paris ...	"	26/-	30/-	28/-	27/
White Lead	6/- cwt.				
Best ...	"	54/	57/6	58/-	58/ to 60
Second ...	"	53/			64
Blast Powder	Free	1/8	1/9	1/7	1/8
Rope—	20%				
Manila, Star	"	111/	111/	111/	111/
O. ...	"	107/	107/	107/	107/
Flax, N.Z.	"	81/ 88/	88/	88/	88/
Co. snacks ...	Free				
44-in. ...	"			12/2	13/6
46-in. ...	"			12/1	13/9
48-in. ...	"	14/3	15/	12/7	14/
Woolpacks ...					
Full ...	Free	5/3	5/8	4/4	5/3
Oils—					
Lins'd, raw	6d.	5/-	N.Z.5/- Eng 5/3	5/6	5/3
Castor ...	Free	5/6	5/6	5/9	5/6
Colza ...	"	7/9	8/	8/	7/9
Kerosene	"	13/9	14/9	14/6	13/9
Turpentine	"	6/6	7/-	6/-	6/6

ware by restricting the cash in ready circulation. With reference to current prices, there is very little to report. There is a temporary glut in fencing materials, and the prices have dropped considerably, galvanised Canadian plain wire 8 gauge selling at £16, and barbed wire, hog or cattle, at £21, a reduction of £2 and £3 respectively from last month's quotations. Genuine white lead has risen £2/10/- per ton in price. Recently the selling price of petrol was advanced by 4d. a gallon, this being the amount of duty imposed by the Government with a view to finance a scheme to improve the state of the roads in the Dominion. It is understood that a rebate is being made in the case of users purchasing petrol for use not on the road, such as dairy machinery and farm tractors.

Dunedin, January 19, 1928.

The holiday season invariably attracts city people to the coast and country resorts, and to that extent affects the general flow of business. This, no doubt, accounts for the temporary slackness prevailing at present. The prospect of the near future is promising, however, in view of the better condition of the wool market, a good harvest, and the continuing erection of business premises and private residences. The demolition of the old post office buildings has now been started, and those designed to take their place promise to be both useful and ornamental. They will provide central accommodation for the many Government branches which in the past were scattered all over the city, causing a good deal of inconvenience to those citizens who had business to do with one or the other. The price list for the month needs but little amendment, values being almost stationary at last month's quotations. Wire nails are now quoted at 21/- to 23/-, and corn sacks are lower at 12/2 for 44 in., 12/1 for 46 in., and 12/9 for 48 in.

Wellington, January 30, 1928.

Business is fairly active, and has improved recently. The general outlook is much brighter all round. The excellent prices realised for wool, and prompt payments, are causing a large distribution of funds throughout the Dominion, and there are the regular payments from dairy factories. These funds in circulation are stimulating trade generally. Building is still active here, though chiefly in the large office structures, of which there have been a fair number building recently. Prices for metal goods are keeping very stable, and stocks of nearly all lines are adequate for requirements. Corrugated iron is in good supply and selling steadily at last rates. Nails are plentiful and unaltered. Fencing wire stocks are fairly good, and increased demand may be expected during February. Heavy iron goods, bars, plates and sheets, are in normal supply with satisfactory turnover. Lead is quiet and unchanged. White lead eased a little recently, and fairly good stocks are held. Oils are keeping steady; linseed oil and turpentine are in normal supply, and petroleum oils are plentiful.

Brisbane, January 28, 1928.

January, as usual, has been quiet, with the exception of forced sales. Merchants report towards the end, however, a much-improved tone, and fair business is expected during the coming month. But there is some perturbation at the quantity of salvaged stock from the unfortunate fire (Webster & Co.), which is being offered at auction. Some of these lines are likely to have a bad effect on metropolitan trade. These include tools, shelf goods, household ironmongery, crockery, aluminium, and glassware. Heavy hardware has been moving out fairly well, considering, the demand from the country being better than was expected. Stocks are plentiful all round at prices unchanged. Bulk lines have been

slow, with stocks in full supply, and prices steady. Station supplies have been slow with the exception of fencing wire and wire netting, which have been in fair demand, evidently required for repairs to fences after the recent heavy floods in many districts. Stocks are good and prices unchanged. Merchants handling explosives report satisfactory business for the month. Prices of gelignite have firmed a little, otherwise no alterations are noted. Stocks are plentiful. Sanitary plumbers' materials and accessories have been in good demand, and prospects look brighter. Builders' supplies are on the slow side, but there are several big contracts that should be started in the near future. Cement is quiet, in keeping with the state of the building trade. Stocks are well ahead of demand, and prices unaltered. Paints and oils have been very slow, and no improvement is expected until March. Prices generally are steady, and stocks rather heavy. With the passing of the wet season and the advent of cooler weather an improvement is expected. A fair demand continues for wheat sacks. Woolpacks are just beginning to move, and before next report it is expected there will be a strong inquiry to satisfy the autumn shearing.

Adelaide January 31, 1928.

Business has been very slow to start off this year, with little demand for most hardware lines. The building section particularly is finding things quiet, there being little activity in this trade at present. In this connection it is interesting to note that the State Bank, one of the very few Government enterprises in this State which is showing profits on its activities, has now had its grant reduced by the Government. This serious curtailment of the Bank's activities will be reflected in the building industry, doubtless resulting in a little more unemployment and retrenchment. Stocks of galvanised iron are very large, but prices remain firm. Small parcels of round mild steel changed hands at £14/10/- nett, and English galvanised fencing wire at £16/10/- for 8-gauge, and £17/10/- for 10-gauge. Ingot tin continues to ease, but sheet lead and lead pipe remain as last. Black and galvanised tubing have been in fair demand at list prices, and a parcel of imported cement was sold at 20/6 per cask. White lead, shellac and turpentine sales have been good, and a parcel of five tons "G" resin (American) changed hands at £29/10/- per ton. There is nothing of interest to report concerning other lines.

Melbourne, February 2, 1928.

After making due allowance for the usual post-holiday slackness, it must be acknowledged that hardware in Melbourne is experiencing a dull time. The inclination is to curtail buying as far as possible, and competition is keen for the business offering. Heavy metals were not inquired for during January, sales in some cases being only secured by the process of price "shaving." Sheet lead was taken at £35 in a few instances. Dealings in iron and steel were strictly limited. A parcel of 5 tons assorted mild steel sold at £15, and 3 tons of bright shafting at £25 basis. A special lot of 35 bars 3 in. x 1 in. flat mild steel went at £16, another sale being about 10 tons reinforcing steel, round, size 3 x 3, which brought £15. Ingot tin was accepted at £262. Building materials were also reported as quiet. Galvanised iron in several quarters showed a downward tendency. Here again it is possible that a cut was made to clear a parcel. In lots of 5 tons corrugated was noted at £25, English makes, in 5, 6, 7 and 8 ft. lengths. Cement prices remained steady. Ingots are not large, Australian mills being equal to the task of supplying local wants. As an indication of prices of iron pipes, actual sales were made during the month of 10,000 ft. quantities, 3 in. galvanised, and also 3 in. at 56½ per cent. off. Wire

netting moved only in one or two mile handlings. Sizes observed were 42 x 1½ x 17, at £49; 36 x 4 x 16, at £22; 42 x 1½ x 17, at £41/10/-; 36 x 1½ x 17, £36 5/-. These sales were only small for this material, and fencing wire also found a rather poor demand. One line of 7 tons No. 8 galvanised wire sold at £16 15/- 3 tons; No. 10 galvanised at £17/10/- 1 ton; No. 4 galvanised at £20; and a similar lot of No. 9 at £17/10/-. A few rabbit traps changed hands, an example being 12 doz. Griffiths make at 22/-. Other lines of interest were Swedish carbide, a ton of which sold at £32; solder, in 5 cwts., at 2/5. Linseed oils have not been handled in any quantity, due partly to the fact that purchases were made some time ago at low figures. Shelf hardware is reported to have sold fairly well at the latter end of December, but moderate business only was done in January. This was principally in builders' lines, handled considerably by large timber concerns, who find it profitable to carry supplies.

The Month's Cablegrams

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date.	Copper. Electrolytic. Per Ton.		Tin. Standard. Per Ton.				Silver. Standard. Per Ounce.	
	1927	1928	1927.	1928.	1927.	1928.	1927.	1928
Jan. 4..	£ 63-63½	£ 66½-67	£ 301 5 0	£ 258 17 6	d. 24½	d. 26	24½	26
" 10..	62-62½	61½-67	301 17 6	254 12 6	25½	26½	25½	26½
" 17..	62½-63	66½-67	301 17 6	247 2 6	25½	26½	25½	26½
" 24..	62½-63½	66½-67½	299 7 6	251 17 6	26½	26½	26½	26½
" 30..	62-62½	62½-67	292 2 6	249 17 6	27½	28½	27½	28½
Feb. 4..	60½-60½	66½-66½	289 12 6	245 6 3	27½	28½	27½	28½

The stocks of tin in the United Kingdom at the end of January were 5303 tons, the deliveries for the month 2795 tons, the quantity on spot 1408 tons, and the quantity afloat 1797 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—January 4, £22/3/9; January 10, £21/17/6; January 17, £22/5/0; January 24, £21/15/0; January 30, £21/3/6; February 4, £21/2/6.

For the month of December the imports of lead into Great Britain and Holland were 26,147 tons, including 15,732 tons from Australia. The exports were 2179 tons.

Spelter.—The sports quotations for spelter, as cabled from London, have been as follows:—January 4, £26/3/9; January 10, £26/2/6; January 17, £25/18/9; January 24, £26/5/0; January 30, £26/5/0; February 4, £25/17/6.

Tallow.—Following are the statistics for January and particulars of the latest auction sales:—

Jan.	Casks.	Date.	Casks Offered	Casks Sold.	Mutton, Med., per cwt.	Beef Med per cwt.
Imports	648	Jan. 4	584	573	36/6	36/9
Deliveries	1247	" 11	875	731	37/-	37/-
Stock	2983	" 13	1150	144	37/-	37/-
		" 25	577	56	36/6	36/6
		Feb. 1	Nil			

Sound Philosophy

Sometimes a young fellow who has taken a position in a hardware store thinks of the job as a filler while he waits for something better to turn up. As a result he probably gives hardware little attention and does not try to become an expert in the business. His mind is somewhere else all the time. It is never a waste of time to master the job in hand.

There was a young man in New England years ago who possessed a natural ability in the construction of violins. He wanted to become a violin maker, but meanwhile he must live. He took a job as plasterer and all day he worked at plastering, doing his best to become a competent workman. His evenings he spent in the work he loved, violin making.

Since he was so good a plasterer he received top wages and he had more money and could take more time for his violin experiments, and in the end he was able to give up the plastering and he became famous for his wonderful violins. There is nothing to prevent a young man from graduating out of the hardware trade into something else some day, but there is every reason why he should be learning all he can learn about hardware. The knowledge will never come amiss and he will be better at that other work for having compelled himself to do his best with whatever work was at hand.—American paper.

Whose the Carelessness?

(From an American Paper.)

The Monroe Bank held a draft on the hardware merchant. The merchant filled out a cheque payable to the bank for the required amount, left it unsigned on his desk, forgot about the matter until the next morning and the cheque could not be found.

"Must have got in the waste basket," the hardware merchant assured himself; made out a new cheque for the bank, and forgot all about the missing one.

A week later the merchant discharged his bookkeeper for general incompetence, and when he received his next monthly statement from the bank he noticed that the cheque in question had been charged twice.

"What does this mean?" the merchant demanded. The bank investigated and ascertained that the bookkeeper had stolen the missing cheque, forged the merchant's signature, added "s" after the word "bank" and had cashed the cheque in a distant city under the name of "Monroe Banks," and, when the check came in, it had been paid and charged to the merchant's account.

"You know the law is that you can't charge a forged cheque to me, so you'll have to credit this back to my account," the merchant pointed out.

"That may be true, as a general proposition, but it don't hold where there's been any carelessness on your part," the bank urged.

"Where have I been careless?"

"In not reporting that there was a missing cheque, especially after you had to fire the bookkeeper."

This point came before the Pennsylvania Supreme Court in a case reported in 119 Pacific Reporter, 909, where the court ruled in the merchant's favour.

"The single question whether the merchant, on ascertaining that an unsigned cheque was missing, owed the bank the duty of reporting to it that fact. In our opinion no such duty existed. There is no contention that the bookkeeper had authority to sign the merchant's name to cheques. Upon doing so he was guilty of a criminal act entirely outside the line of his employment and duty," was the reasoning of the court.

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney Feb. 1	Melbourne Feb. 2	Adelaide Jan. 31	Brisbane Jan. 28		Duty	Sydney Feb. 1	Melbourne Feb. 2	Adelaide Jan. 31	Brisbane Jan. 28
Pig Iron ...	20/ 40/	£	£	£	£	Zinc—		£	£	£	£
British ...			7 5/	7 10/		Sheet 9 to 18g	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.
Lithgow ...	7 10/		7 5/			(7 x 3 & 8 x 3)		4/9	7		5/6
Newcastle ...	7 10/		7 5/	7 10/		Perforated	35%, 45%	32		64/	
Bar and Rod	44/ 120/	23 basis	English 21	21	22. 10 basis	Speiter	10%, 20%	301. 10/ to 37	41 10/ to 42		40/
Australian ...			18/6	17 10/		" Elec...	25%, 40%	1/9	1/5		1/9
Mild Steel ...	44/ 12 1/2	19 10/ basis	19/ basis	18 10	18	Bolts & Nuts—		75/ 59/	63/ 47/ 41/		
Bar ...		19 10/	18	19	19	Cuphead	3"	76/ 57/	61/ 46/ 39/		
Angles ...		21	18	20 10	20	"	5"	70/ 54/	56/ 43/ 37/		
Tees ...	F., 10%	20 basis	19 basis	19 6	21/ basis	"	6 1/2 to 9"	65/ 49/	52/ 39/ 35/		
Hoops ...		31/6 basis	35	38/6	31 10/	"	9 1/2 to 12"	61/ 47/	49/ 38/ 34/		
Galv. Corr. 24g.	20/ 60/	30/	24 10/	25	27 5/	Tanks, 400-gal.	Free	59/ 45/	5 10/		5
Orb 26 g.		28	26	26 10/	28 15/	200-gal.	F., 10%	3 10/	2 15/		3
"						Tubing—					
Phoenix Cr.		26	25	27 5/	28 15/	Black, up to 3"		55 off list	55% off	58 1/2 off	List 45% off
Galv. Plain 24g.	20/ 60/	30/	26 5/	28	29	3 1/2 & up	27 1/2	50	60% off	35 off	5% on
Queen's Hd.						Galv. up to 3"	27 1/2	40	55% off	48 1/2 off	35% off
Phoenix Cr.			25 15/	27 15/	28 15/	3 1/2 & up	27 1/2		37 1/2 off	20 off	Less 5% off
Fleur-de-lis						Steam, up to 3"	27 1/2		37 1/2 off	37 1/2 off	5% on
Other						3 1/2 & up			5% off	20 off	25% off
Sheet ...	F., 125/	26 basis	25 basis	25 15/	26	Wt. ght. boil.	F., 5%		10% on		15% on
Black		B26, G34 5'	26 10/		19	Explosives—	10%	1/-	10d.	1/-	5/
Baldwins		18 basis	15 basis	15	15 10/	Hall's C.C.		10d.	10d.	11 1/2	1/
Plate ...	F., 120/	19 6	21	19	20/-	Curtis's		10d.	10d.	11 1/2	1/
Steel		18 5/	18 5/			Chilworth's		10d.	10d.	11 1/2	1/
Girder	F., 120/	15 12/6	15	15 10/	15 10/	Sporting	15%, 25%	3/6, 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/
Fencing Wire		16 12/6	16	16	16 10/	Diam. S'less		10/	8/ to 8/6	8/8 to 8/6	5/
American		17 17/6	17	17 10/	18	Amberite	F. 5%	8/6	7/ to 7/6	6/8 to 7/6	75/
Austra'n 8 Bl.		18 17/6	18	18	19	Blas't'g Gel.		72/6	74/6	74/6	78/6
Galv.		20 2/6	19 10/	20	20	Gel. Dyna.		65/	66/	66/	71/-
"						Gelignite		56/ to 60/	56/ to 59/3	54/6 to 58/6	62/ to 66/
Barbed Wire,	68/ 180/	24			25 10/	Dynamite		51/ to 57	51/ to 57/	48/6 to 51/6	...
Amern. 12-g.		25 10/			26 10/	Detonators	15%, 25%	55/	55 to 60/	60/ to 85/	58/ to 102/
14-g.		24 10/	23 10/	24	25 10/	Shot—Chilled	5/ 6/	63/6	61	75/	90/
Austr. 12-g.		24 10/	24 10/	25	26 10/	Australian		61	56		1/6
13-g.		26	25 0/	26 10/	26 10/	Cyanide Pot.	Free	1/4	1/6	5/8	9/-
14-g.						Quicksilver	Free	7/6	5/	18/6	18/6
Wire Netting	F., 200/					Shah Weights	35%, 45%	16/	18/	60/	60
36 x 1 1/2 x 17	per. ton		36 15/	28	New List	Sheep Shears	F., 10%	62/6	21/-	21/-	21/ cask
36 x 1 1/2 x 18			29	35		Cement—Imp't'd	20%, 30%	25/ cask	18/	7/-	6/6 bag
42 x 1 1/2 x 17		22 1/2 to	49 15/	33	10 to 15%	Aust. (bags)		37/6 K.W.	35/	47/6	50/ cask
42 x 1 1/2 x 18		25% off	34	33 10	Off List	Plaster, Imp.	1/6, 2/c	Pixie 35/-	8/	9/3	18/ bag
36 x 1 1/2 x 17		list	25		20%	Slates (20 x 10)	30%, 40%				
36 x 1 1/2 x 18			22 10/	23	Off List	White Lead—	8/ 10/ or				
36 x 2 x 18			20	20 15/		Imported	25%, 30%	63/	62/	64/	66/
36 x 2 x 19						Australian		57/	56/	60/	62/
Nails—						Zinc White	20%, 30%		70 to 100		72/ to 80/
Horseshoe	12/ 15/	Less 5%	to 1/1b.	1/ less 10%	List Price	Oils—					Colonial 56/
" Austn.	5/6, 8/		List			Linseed (raw)	9d., 1		Drs.,		5/6
Wire	or 25%, 35%	28/6 basis	18/ to 20/	24/6 to 35/	29/- basis	Imported		R5/3	5/6	Drs., 5/9	4/10
" Austn.	5/6, 8/	65/- cwt.	65/cwt., 9/6	9/-		Australian	6d., 8d.	C4/8 D5/8	C., 4/	Drs., 4/6	
Roofing—						Colza	9d., 1/		6/3	6/9	7/9
Even-den						Burning	2s., 2/6		8/		10/
Lead-head						Castor	6d., 8d.		8/6 to 10/		13/
Block Tin	Free	255	280	265	3/	4-cases	Free		13/		13/6
Tin Plates,	F., 10%	112's 60/-	62/6	112's 52/6	27/	China			13/6 to 14/6	13/	13/6
28 x 20		35/-	70/		42.	Cotton seed			13/6 to 14/6	13/	13/6
I.C. Coke						Kero.—C.O.R.			13/6 to 14/6	13/	13/6
I.X. Coke						Laurel			4/9	5/8	6/6
Pig Lead	Free	25/6	25	31.	37/10	Light of Age			18/ per case	3/3	2/6
Austn.						Pennant			2/6		3/-
Sheet Lead	10%, 20%	40/	50	43/6	49/	Turpentine	F.,				
Dampcourse		4 1/2 6/6	48			Substitutes	1d., 1d.				
2 lb.		4 1/2 9/9	47			Shellac					
3 lb.						Whiting—	6d., 9d.				
Lead Pipe—	10%, 20%					English		9/	9/-	9 10/	£12 ton lots
3 to 2 1/2 coils		45/	47 10/	46 5/	59/	Colonial		4/9	4/9	5/	
Lengths to 5'		47/	52	48 15/	60.	Resin, G grade	Free	32/6	36/-	36/	26/6
Compo. 3" & up		51/	51	48 10/	72/	Carbide	80/ 150/	32/6	30/	29 5/	29 7/6
Copper—						" I X L "		34/-	33/-	33 10/	33
Ingots			70	78/	10d.	Scandinavian					
Sheet	25%, 40%	1/5 1/2	1/7	1/8	1/8	Canadian					
Brass						Japanese					
Sheet	25%, 40%	1/3	1/2 to 1/6	1/6	1/6	Bluestone—	100/ 200/				
						Macclesfield		37/6	38/-		38/
						Australian		36(1 cwt c/s)		37/6	
						Japanese					
						Stock Tar, 42 g.	25%, 35%		1/5	60/-	
						Woolpacks—	Free				
						42 x 1 1/2			6/	5/9	
						54 x 1 1/2		4/3	4/6	4/9	4/9
						Corn sacks—	Free				
						2 1/2 lbs. (Oats)					
						2 1/2 lbs		9/7 1/2	12/6	11/6	10/9
						Branbags	Free	10/	10/6	10/-	10/7

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

Firms Registered.

Illawarra Galvanizing Works, 138 Prince's Highway, Arncliffe; proprietors: Andrew B. Baxter and Rupert L. Thomas.

Chapman's Store, grocer and hardware dealer, of 120 Major Bay-road, Central Concord; proprietor: Vincent H. Chapman.

Auto Gate Co., manufacturers and sellers of patent gates, Moree; proprietors: Edward Foster, Alfred A. B. Taylor and Cleave A. Taylor.

J. P. Whiter, furniture dealer, grocer and ironmonger, Parker-street, Cootamundra; proprietors: Federal J. Whiter and Arthur E. G. Whiter.

Tubular Gate & Wire Fence Co., wire gate and fence manufacturers, 5 Harnett-avenue, The Warren, Marrickville; proprietor: Samuel K. Chester.

Company News.

Ascot Foundry Ltd., announce that the capital of the company has been increased from £10,000 to £27,000 by the creation of 17,000 new £1 shares.

Iron Cove Wire and Steel Works Ltd., announce that the company is being wound up. Herbert M. Guthrey, Wright's-road, Drummoyne, is the liquidator.

Eclipse Fencing Droppers Ltd., have been registered with a capital of £7500 in 10/- shares. Objects: To adopt a certain agreement and to carry on the business of manufacturers of Eclipse Fencing Droppers, etc. Subscribers: L. W. Carey, Alec Hall, Stanley O'Neill, A. E. Saxton, T. J. Thompson, Marcia Dobbin and Morrison Dove. Reg. office: Sydney.

Eagersol Glareless Reflector Co. Ltd. have been registered with a capital of £25,000 in £1 shares. Objects: To carry on the business of manufacturers, producers, suppliers and distributors of lamps, reflectors of all kinds, etc. Subscribers: James Linton, G. W. Leighton, Reginald Linton, Reginald A. Fraser, Clarence Linton, William J. Jarvis and Helen Wake. Reg. office: Sydney.

New Zealand

International Harvester Co. of N.Z. Ltd. announce that the capital of the company has been increased from £200,000 to £300,000 by the creation of 10,000 shares of £10 each.

Quickfix Droppers (N.Z.) Ltd. have been registered with a capital of £4000 in £1 shares. Objects: Manufacture of fencing droppers. Subscribers: W. Macalister, W. E. Macalister, H. J. Macalister, A. Macalister and M. Macdonald.

Queensland

Smellie & Co. (Ingham) Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire and take over as a going concern the Ingham branch of Smellie & Co. Ltd., and to carry on

the business of general hardware merchants, importers, indentors, manufacturers' agents and dealers in all kinds of metals and every description of machinery and to carry on any other business of a similar nature, etc. Subscribers: John W. Bennett, Oswald M. Fast, William J. Stephens, Alfred C. Cockrell, Frank N. Alston, Aniceto Menchaca and Archibald Sinclair. Reg. office: Ingham.

South Australia

Giles & Co., sheet metal workers, 215 Pulteney-street, Adelaide, have been registered under the Firms Act; proprietor: Frederick Lee Rees.

May Bros. & J. H. Jones Ltd. are in voluntary liquidation. Geoffrey Valentine Shaw, Epworth Building, Pirie-street, Adelaide, is the liquidator.

Victoria

Metters Bros., oven and stove manufacturers, Buncle-street, North Melbourne, announce that George Reid has become a member of the firm.

Chambers & Seymour Pty. Ltd., of 274 Flinders-street, Melbourne, are in the midst of a "retiring sale." Report has it that they are disposing of their lease and going out of business altogether.

Allied Metals Ltd., metal refiners, have been registered with a capital of £50,000 in £1 shares. Subscribers: Harold Jones, Augustus Holding Charles, Frank Buckhurst, John George Keogh and Charles Edward Taylor. Charles Leslie Butchers, Alexander Herbert Stent and Richard Gordon Johnstone are also directors. Reg. office: 119 William-street, Melbourne.

Western Australia

Perth Coppersmithing Co., coppersmiths, sheet metal workers, etc., 118 Bennett-street, Perth, announce that Hewin Greenaway has retired from the firm. George Arthur Williams is the continuing member.

Agents and Agencies

Mr. Louis A. Scott, of 324 Pitt-street, Sydney, is Australasian representative of the John Russell Cutlery Co., Turner's Falls, Mass., U.S.A.

W. G. South & Cowan Ltd., of 352 Kent-street, Sydney, have been appointed Australian agents for the Royal Crown Porcelain Co. Ltd., Derby, England.

Mr. P. Andrews, formerly with Mr. James Henderson, has joined Mr. Louis A. Scott, Danks' Buildings, Pitt-street, Sydney, and will assist in the travelling duties.

Mr. Arthur H. Hassell, of 17 Queen-street, Melbourne, and elsewhere, has been appointed agent for "Rex" petrol hose, made by the Chicago Tubing and Braiding Co., Chicago, Ill., U.S.A.

Nelson & Co. Ltd., of Broughton House, 47 King-street, Sydney, have recently acquired several new agencies including:—

Burgon & Ball Ltd., Sheffield (sheep and garden shears, secateurs, tinman's snips, etc.).

John H. Elliott, Sheffield (steel stamps and dies).

Hall Bros. Co., West Acton, Mass., U.S.A. (cylinder churns).

Travellers

In New South Wales.

Mr. C. Deutgen, from Grotjan & Co., Melbourne, will be at Macdonnell House, 321 Pitt-street, Sydney, from January 25 till February 28, or thereabouts, and at the C.T.A. Sample Rooms, Brisbane, during the month of March, with full ranges of Bleckmann cutlery, tools, and general hardware, and of Jaeckle brassware.

Mr. W. R. Volum, of W. R. Volum & Co. Pty. Ltd., 294 Little Collins-street, Melbourne, will visit Sydney on February 6 with full ranges of Kienzle clocks, including many new designs, and tools from Richard Abr. Herder, of Solingen. His samples will be on view at Macdonnell House, Pitt-street, during the remainder of that month.

In South Australia.

Mr. N. H. Bailey, of Bailey's Ltd., 117 York-street, Sydney, left early in January on a business visit to Adelaide and Melbourne. He will be away about two months and his address in each city will be care of Commercial Travellers' Club.

In Victoria.

Mr. Louis A. Scott, of Danks' Buildings, Pitt-street, Sydney, will be at Commerce House, Melbourne, from February 13 to March 12, and, with headquarters at Gay's Arcade, he will be in Adelaide for two weeks from March 16.

In New Zealand.

Mr. Ernest Wilson, factory representative for Snear & Jackson Ltd., and Joseph Rodgers & Sons Ltd., of Sheffield, left Auckland on February 1 for an extended trip through the Dominion. He will visit all towns in both islands with a range of samples on behalf of both his principals, and his address will be c/o. the N.Z. Express Co., throughout New Zealand.

To and From Europe.

Mr. J. H. D. Brearley, managing director of Noyes Bros. (Melb.) Pty. Ltd., returned to Melbourne by the R.M.S. "Narkunda" during the month. With Mrs. Brearley he has been abroad for about twelve months.

Captain Oliver Lyttelton, general manager of the British Metal Corporation Ltd., London, reached Australia early in February, and will visit Broken Hill among other places. He is accompanied by his wife, Lady Moira Lyttelton.

Mr. E. Heath, a director of T. W. Heath & Co. Ltd., 232 Clarence-street, Sydney, left for England on January 11 by the R.M.S. "Naldera" on a business visit to the firm's principals and will also visit other manufacturing centres. He is accompanied by his wife.

Mr. A. Harris, managing director of Harris & Marsh Pty. Ltd., Liverpool-street, Hobart, has booked his passage to England by the s.s. "Benalla," via the Cape, and intends to return through the Suez Canal. During his eight months' absence he will exploit the hardware manufacturing firms and will make a special trip through the potteries, in which he is particularly interested. Mrs. Harris accompanies her husband, and their address will be care of the E.S. & A. Bank, 5 Gracechurch-street, London, E.C.3.

Mr. E. M. Cozens, saw expert on the staff of Sanderson Bros. & Newbould Ltd., Sheffield, England, returned to Sydney on December 29 after a six months' visit to England.

The journey was made in order to convey more directly local requirements under present conditions, special attention being given to band saws, circular and cross-cut saws, and the "Pax" skewback carpenters' hand saws. Mr. Cozens states that he was most impressed by the rigidity of the tests which British-made goods have to undergo before being shipped to this country.

Economic Relations in China.

In co-operation with the International Industrial Service League, the Emergency School of Chinese Studies in Shanghai recently held a one-day Conference on Economic Relations. It was attended by over fifty Chinese and foreigners of both sexes who are interested in economic and religious questions. In the morning session questions relating to conditions of employment and aspects of human relations in employment were discussed. The afternoon session considered questions of wider scope, namely, How far is China a fertile ground for the importation of new economic doctrines? What factors in Chinese life tend to make it so, and what militate against it? What is the real position in regard to the so-called "Economic Imperialism"? etc. Discussions were led by experienced men. A bigger conference, called the National Conference on Christianising Economic Relations, was held at the same place from August 18-28, under the auspices of the National Christian Council of China, and discussed such questions as minimum wages, freedom of association for all workers, abolition of child labour, formation of shop committees, farm tenancy, co-operative marketing and credit, private property, inheritance, economic competition, current social thinking, etc., etc. Both conferences show the increasing interest of Christian and missionary bodies in economic relations. — "The Chinese Economic Bulletin."

Chinese Native Brassware.

Brassware and tinware constitute one of the oldest industries in China. Most utensils used in the average Chinese family are made of brass or white copper or tin. Within recent years, the manufacture of brass articles such as Buddhas, incense burners, cigarette ash trays, etc., to meet the demands of foreigners, has opened a new outlet for the industry. In Shanghai alone there are 44 brass and tin workshops registered in the guild in addition to those whose business is too small to be admitted to membership. The latest catalogue issued by the guild gives 666 varieties of brass or tin articles. Small articles are sold by the piece, and prices vary from \$0.30 to \$2.30 (7d. to 4/7). The large articles are sometimes sold according to weight: brassware from \$0.90 to \$30.00 per catty (1/9 to 60/), and tinware from \$0.37 to \$2.00 per catty (8d. to 8/-).

Although the industry is conducted on a large scale, the articles are still manufactured by old methods. The equipment of a workshop consists of an open furnace with bellows operated by hand, a few anvils, hammers, and moulds. All work, from the raw material to the finished article, is done by hand. The brass is obtained largely in Shantung, and the tin in Yunnan.

Each workshop has from 3 to 14 smiths, and from 2 to 5 apprentices. The smiths receive from \$3.00 to \$20.00 (6/- to 40/-) per month with free board, while the apprentices are provided only with free board and lodging.

Commonwealth Tariff Decisions

Manufacturing Section

The following decisions of more or less interest to the hardware trade have been made during January. By way of explanation it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (12/11/26, and so on) the date on or from which the new decision took or takes effect:—

Mortisers—			
28/7	Hand lever. (By-law No. 719.)	219	12/11/26
Iron and Steel—			
28/13	Angles, Silicon Steel, 12 in. x 12 in., for use in the construction of Bridges, under security. (By-law No. 729.)	415a (2)	18/11/27
Machinery, Machines, etc.—			
28/15	Cleaning Machines, Boiler Tube, Pneumatic. (By-law No. 721, Miscellaneous.)	174	2/12/27
Note.—The reference to Cleaners, Tube, Boiler Tube Turbine, etc., in "Guide," page 190, is to be cancelled.			
Machinery, Machines, etc.—			
28/16	Grinding and Sharpening Machines—Drill Grinders or Sharpeners (except Twist Drill Grinding Machines and Pneumatic Drill Grinders of the pedestal type)	176(f)	14/12/27
	Pneumatic Drill Grinders of the pedestal type	174	
	Twist Drill Grinding Machines	174	
Note.—T.D. '27/150 is to be cancelled and the reference to Grinding and Sharpening Machines in Consolidated By-laws, page 17, and in By-law No. 25, is to be amended by inserting after the words "except twist drill grinding machines" the words "and pneumatic drill grinders of the pedestal type." (By-law No. 722.)			
Metals—			
28/17	Boron (Boron) for use in the manufacture of Metal Castings. (By-law No. 725.)	404	5/4/27
Observers—			
28/19	Furnace Fire, for use with boiler Furnaces. (By-law No. 732.)	415a (2)	14/12/27
Rods—			
28/22	T.D. '27/76 having reference to Extruded Phosphor Bronze Rods for use in the manufacture of Bushings, Bearings and Seatings, under security, and the relative references thereto in Consolidated By-laws, pages 81, 85 and 109, and in By-law No. 71, are to be cancelled, but any such Rods as were in direct transit to Australia on January 16, 1928, may be admitted, under security, under Tariff Item 404. (By-law No. 726.)	..	..
Electrical Appliances and Materials—			
28/30	Comparascopes, being appliances for producing coloured lights by which the temperature of heated steel for forging is ascertained. (By-law No. 743.)	415a (2)	25/8/27
Iron and Steel—			
28/34	Bars, Steel, "cruciform" section, for use in the manufacture of Overhead Runways, under security. (By-law No. 739.)	404	14/12/27
Preference, British—			
28/41	Cutlery of foreign origin packed in cases made in United Kingdom. Case (Tariff Item 376 (d)). and Cutlery (Tariff Item 197), although treated as one article for duty purposes, are to be dealt with separately in determining eligibility for Preference, and should be invoiced accordingly.	..	..
Machinery, Machines, etc.—			
28/56	Broom and Brushmaking Machines—Planing, for straight and curved brush-boards. (By-law No. 748.)	174	30/9/27
Machinery, Machines, etc.—			
28/57	Choppers, Power, for the production of fruit juices by extraction of the juices and ejection of the skins and seeds in one operation. (By-law No. 740, Miscellaneous.)	174	21/10/27
Machinery, Machines, etc.—			
28/65	Presses, Extrusion, for use in the manufacture of Collapsible Tubes. (By-law No. 755, Metal-working.)	174	4/3/27

In this section readers may look for news referring directly to the manufacturing interests of Australia and New Zealand—within the scope suggested by our title. New enterprises, new or extended plant or premises, changes of management, and other such matters on the manufacturing side are what we wish to present under this heading. Any news of this nature will be welcome from any of our readers, and that whether it pertains to themselves or to some other firm or interest.

Wire Goods.

Nupeg (Aust.) Ltd., of 673 Botany-road, Waterloo, Sydney, are manufacturers of clothes pegs, wire staples, netting clips, bale fasteners, D-shaped handles, "billy" can handles, "billy" lid handles, and circles or squares of wire. They have installed automatic machines for the production of such wire goods, and as some of the lines are usually made by hand they should be in a good position to quote. Their trade mark is a looped wire.

Glass Manufacture in New Zealand.

The Southern Cross Glass Co. are installing plant at Ashburton, New Zealand, for the manufacture of glass and glassware of various kinds. Plate glass for motor cars and table glassware will be among the lines undertaken. The raw material will be drawn from Mount Somers, near the town of Ashburton, where there is said to be one of the finest deposits of silica in the world. Mr. H. Schnurpfell, an expert glassmaker from Czechoslovakia, has come out to New Zealand to superintend the erection of the plant and advise the company generally.

Additions to Factory.

Kavanagh & English Ltd., of Little Collins-street, Surry Hills, Sydney, have recently had extensive additions made to their factory. The new building is of reinforced concrete, and gives 12,000 ft. extra floor space, which, added to that of the old building, makes a total of 21,000 ft. Provision has been made for the erection of six floors if necessary, and a feature is that natural light is available on three sides, full advantage of which has been taken by the provision of ample window space. The whole interior is painted white, and the offices have been built on convenient and up-to-date lines.

The firm have made good progress since they started six years ago. Among the earliest manufacturers of domestic articles and kitchenware in New South Wales, they now make 108 distinct lines, but as there are several sizes included in the list, the total range is 250, and they have established a connection from Cairns to Perth. Business operations are confined to the wholesale trade and the big departmental stores, beyond which they have never gone. One of the hardest tasks experienced in building up the business has been the training of labour, the staff having been filled by raw recruits who have been coached into efficiency.

Higher duties have recently been imposed upon many of the articles manufactured by the firm, but Mr. Kavanagh maintains that this will not involve an increase of prices. On the contrary they are committed through the Tariff Board to reduction, and they hope to be able to do this as a result of the increased business expected from the ampler protection.

Publications Received

Friends at a Distance.

The Bridgeport Hardware Manufacturing Corp., of Bridgeport, Conn., U.S.A., have sent us with the season's greetings a blotter with celluloid face and appropriate printing. We reciprocate the good wishes conveyed in this pleasing fashion.

Victorian Railways.

A pictorial wall calendar for 1928 has been issued by the Victorian Railways Department. Besides showing the dates for the whole year at a glance it gives certain information about the railway services of the State and carries illustrations in colour of the rolling stock now in use—a steam train, an electric train, and a motor bus. A bold piece of lithography, it measures about 25 in. x 15 in.

Blackman Fans.

A folder received from the Blackman Export Co. Ltd., of 374 Euston-road, London, N.W.1, describes their type 1 propeller fans. These may be had either belt-drive or for electric current with or without wire guards, and in twelve sizes of fan, from 12 in. to 72 in. In ordinary the runners are red and the frames dark blue, but where so desired they may be enamelled in any other colours.

Newton, McLaren Ltd., of Leigh-street, Adelaide, are the agents.

Avia Tools.

Lists 17 and 18, issued by the Avia Steel & Tool Co. Ltd., of Trafalgar-street, Sheffield, have come into our hands. These carry illustrated descriptions of a variety of hand tools offered by the company, No. 17 dealing with various new lines and price revisions. In addition to the tools made in their own factory the company offer certain special lines like micrometers, verniers and precision files, which, although manufactured in Switzerland, carry their guarantee.

Now incorporated with Moore & Wright, precision tool makers, of the same city, these manufacturers are represented in Australia by Mr. Thomas C. Brown, Box 1634 J.J., G.P.O., Sydney.

Morris Cranes.

For lifting and shifting appliances—cranes, runways, elevators, stackers and what not—Herbert Morris Ltd., of Loughborough, England, are widely known. A sectional publication now before us illustrates some of their cranes and some of their uses. They make cranes of various sizes and types for hand power, steam and electricity. Fixed position and portable cranes are shown at work, some of them with jibs long enough to reach over two barges and unload a third. Such accessories as boilers and slings are also illustrated. The descriptive matter is well done, snappy and pointed.

Noyes Bros (Melbourne) Pty. Ltd., of 495-501 Bourke-street, Melbourne, and elsewhere, are the agents.

Benn's Publications.

From the office of "The Hardware Trade Journal," published by Benn Bros. Ltd., of Bouverie House, 154-60 Fleet-street, London, E.C.4, we have received two seasonable publications.

The smaller of these is a pocket diary for the current year, the diary proper giving a week to a page. Apart from the diary pages it contains a good deal

of information useful to hardwaremen in Great Britain especially.

"Benn's Encyclopaedia of Hardware and Desk Diary" is the title of the second and larger volume, a volume of 739 pages 12 x 9. Here, again, and in ampler measure, is information not only relative to the many firms who make advertising use of the volume, but about matters of more general interest to hardwaremen.

"Petropine" Paint Thinner.

In a booklet devoted to "Petropine," issued recently by the Vacuum Oil Co. Pty. Ltd., the remarkable qualities of this thinner are set out. As painters are aware, a perfect thinner is required to do quite a number of things. Primarily, its purpose is to reduce, or thin, paint to a suitable working consistency, so that it may be readily applied; but it must mix perfectly and quickly; it must dry completely, evenly and cleanly, by evaporation, leaving the pigmented ingredients to set undisturbed in any way, by chemical reactions; its evaporation must be at a certain rate—an ideal drying speed; it must be entirely free from sulphur compounds, from water, and other impurities; it must be water-white and crystal-clear, and remain so, with no sludging, or other deposits, on standing indefinitely. Lastly, its odour must be inoffensive, and the fumes must have no toxic effect on the painter.

"Petropine," it is claimed, satisfies all these requirements. For practical purposes it takes the place of wood turpentine, and as a "flattening" medium it gives a good finish.

Copies of the booklet may be had by painters and others interested from the nearest branch of the company in Australia or New Zealand.

A Crepe Paper Department.

An American contemporary tells of the success which has attended a departure made by a hardware firm in that country—H. G. Beatty & Co., of Clinton, Ill. As an adjunct to their gift department they added some time ago a section devoted to crepe paper, and this is now one of the busiest corners of the store. It is presided over by a young lady, who has had special training in the decorative uses of tissue and crepe papers and who is able to give helpful suggestions to any customers wishing to make their own party favours or decorations. In case the customer wants something already made up, the department carries a full line of nut cups, place cards, favours and the like.

Holidays or special occasions, such as Valentine Day, Fourth of July, Hallowe'en, and Christmas, require special and larger stocks and cut-outs and specially-designed papers sell well. As a means of creating additional interest in the department, Mr. Beatty last year had conducted, under competent instructors, an art class in his hardware store every afternoon and two evenings a week for seven months. An enrolment fee of a dollar was charged plus the cost of the materials used, and approximately 500 women took advantage of the opportunity to receive instruction in making lamp shades, crepe paper flowers, wax work, parchment painting and the like. The sales of materials averaged better than \$4 to each woman.

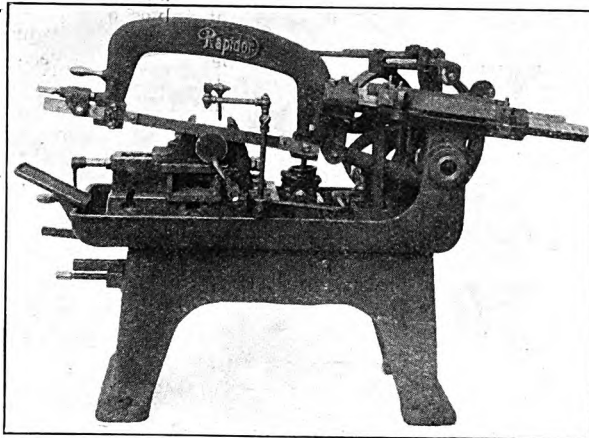
Also as a means of demonstrating the decorative value of crepe paper in a practical way, Mr. Beatty uses it himself extensively throughout the store. Brilliant colours are used in trimming the displays of kitchenware, pyrexware, auto accessories and even tools. In the gift department the china glassware and fancy ware are effectively set off by the use of paper in the more subdued colourings—white and apple-green being the most used.

Machinery

New Sawing Machine.

In the new "Rapidor" sawing machine here illustrated Edward G. Herbert Ltd., of Levenshulme, Manchester, offer users an article which will give the maximum output possible with any high-speed steel saw blade.

This machine can be run at 200 strokes a minute, that is 22 ft. per minute cutting speed, or nearly double the usual effective speed of a hack-sawing machine. The output is proportionately increased. In designing the new machine quick operation was



kept in view. The saw blade is trained by turning a handle in a fraction of the time taken with a spanner, and a patent tension indicator shows when the blade is correctly trained.

Intended to replace the firm's "Rapid" sawing machine of the same capacities, the "Rapidor" is at present made in two sizes only—No. 1, with a capacity of 6 in. x 6 in.; and No. 1A, with a capacity of 8 in. x 8 in. Larger sizes will be made eventually. It is arranged for (1) single speed belt drive; (2) three-speed belt drive; (3) single-speed motor drive; (4) three-speed motor drive, with single-speed motor, or (5) variable speed d.c. motor drive.

All operations are controlled from one position in the front of the machine, and all working adjustments are made from the same position. On the three-speed machine the speed changes are made by a handle at the front of the machine. In operating this machine the pressure on the blade is not altered after adjustment to suit the blade, the material and the speed. It has not to be altered during a cut because of variation in the width of the work, nor has it to be altered during the lifetime of a blade if "Rapidor" blades are used. When a blade is dulled, instead of adding pressure and forcing it to cut, it is taken out and re-sharpened, following the practice with all other cutting tools.

The vyce, of the heavy screw type, has a loose jaw, which swivels for holding taper work. The vyce can be swivelled on the T-slotted table for making cuts at an angle or it can be removed altogether and work bolted direct to the table. The screw is fitted with a ball thrust washer which lessens the effort required from the operator when fixing work. Cuts can be started on sharp corners without damage to the blade by a patent control device operated by one finger. The common practice of filing a flat is done away with.

Made of the best materials throughout, the machine has all parts interchangeable, and is offered at the same price as the earlier model.

Wheel Puller with Extension Jaws.

The Crane Puller Co., of Waltham, Mass., U.S.A., are supplying extension jaws in two sizes for use with their wheel-puller.

This device is especially designed for removing wide-faced paper pulleys. The No. 3 size extension jaw takes pulleys 18 in. diam. by 22 in. across the face, while the No. 3x size takes pulleys 24 in. diam. by 26 in. across the face.

New Diehead.

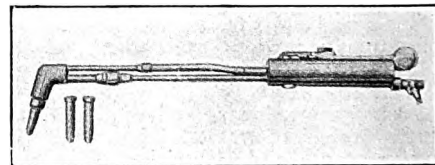
The style E.E. H. & G. diehead is announced by the Eastern Machine Screw Corporation, New Haven, Conn., U.S.A. It is designed for use on rotating die spindles. The head is both opened and closed by means of one yoke which engages the spool or groove in the rear of the head.

The improved style of head has a smaller outside diameter, an improved locking and tipping mechanism, and is of lighter weight than this company's former models. It is claimed to provide accurate adjustment for length of thread cut and, because of its single yoke construction, installation, on automatic screw machines, is said to be simplified. The same basic principle of holding the chasers and supporting them directly over the chamfer has been retained, as has the positive opening action in other H. & G. dieheads. The same chasers may also be used.

The style E.E. diehead is available in the following sizes:— $\frac{7}{8}$ in. with outside diameter of $2\frac{1}{2}$ in.; $\frac{1}{2}$ in. with outside diameter of $2\frac{1}{2}$ in.; 1 in. with outside diameter of $3\frac{1}{2}$ in., and $1\frac{1}{2}$ in. with outside diameter of $4\frac{1}{2}$ in.

Oxy-Cutting Torch.

The Alexander Milburn Co., of 1416 W. Baltimore-street, Baltimore, Md., U.S.A., announce the type L.P.G. cutting torch for use with city gas, natural gas, or by-product coke-oven gas. It is designed for cutting heavy plates, risers, gates, and billets with a gas pressure of 4 in. of water.



Tests have shown that this torch can be successfully used with by-product coke-oven gas without being scrubbed. With a gas of such low B.T.U. content a speed of 1 ft. per min. is obtained on a 3 in. plate, using oxygen at a pressure of 40 lb. per sq. in. and the gas at ordinary line pressure.

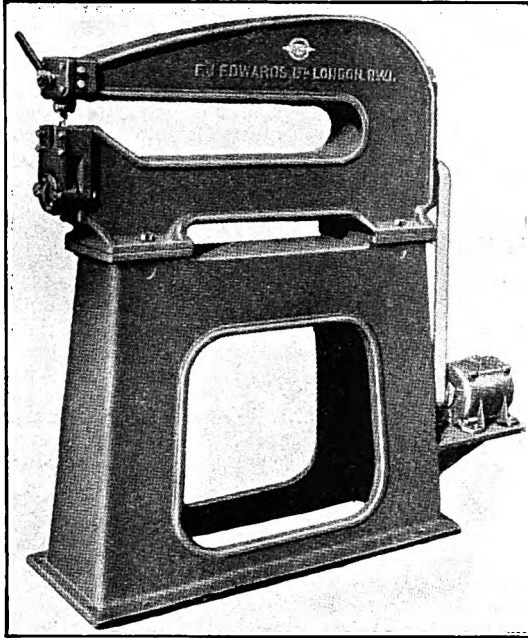
Cuts made with this torch show a clean, sharp edge devoid of slag on the underside. The kerf is narrow and the edges smooth. It is said that the surfaces do not case-harden, and consequently the machinability of the metal is not affected.

The torch is made of bronze forgings and special seamless tubing constructed to withstand severe service, and is evenly balanced. The high-pressure oxygen is controlled by means of a thumb valve which remains fixed in an open or closed position. The gas tubes are so placed as to give the torch considerable

transverse strength. The torch is supplied with a range of tips to accommodate all thicknesses of metal. These tips are of solid copper, and are designed to rapidly preheat the gases, thus giving better penetration and quicker cutting.

Universal Shearing Machine.

A universal shearing machine for sheet metal workers recently introduced by F. J. Edwards Ltd., of 406 Euston-road, London, N.W.1., is illustrated



hereunder. This machine will cut any shape, either internal or external, in mild steel sheets up to 14 gauge thick. It has a pure shearing action, does not nibble, has no self-feeding tendencies and, consequently, ceases to cut precisely where the operator wishes it to do so. The lower blade only vibrates, the top blade remaining stationary, which enables the shearing line to be followed very easily. To cut internal shapes raise the top blade by means of the lever shown, insert the sheet and bring down the blade so as to pierce the sheet at the desired starting point, when the cutting can proceed. Raise the top blade again to release the work when the internal cutting is finished. The blades are adjustable for wear and can be quickly removed for re-grinding. The driving shaft should run at approximately 1,200 r.p.m. Sheet metal workers who have to deal with intricate shapes in sheets up to the thickness given will readily see the advantages of this machine.

The approximate weight of the machine is 714 lb., and the depth of gap 30 in.

Small Capacity Melting Pot.

An electric melting pot of small capacity has been placed on the market by the General Electric Co., of Schenectady, N.Y., U.S.A. The capacity is from 27 to 40 lb., depending on the metal to be melted.

The pot consists of a sheet-steel cylinder casing, 9 in. diam. and 10 in. deep, in which is supported a cast iron crucible 6 in. diam. and 4 in. deep.

The space between the crucible is insulated with a compact heat insulator. The heating units are of the cast-in, sheath-wire type, one being used in each pot. The leads of the unit are brought over the top

of the pot into a connection box fixed to the unit.

This pot can be used on either 110 or 220 volt alternating or direct current circuits, and is made in 750 and 1000 watt ratings. It is designed for melting metals at temperatures not exceeding 950 deg. Fahr.

Extension Paint Spray Equipment.

The Alexander Milburn Co., of 1416 West Baltimore-street, Baltimore, Md., U.S.A., have perfected an extension paint spray equipment for use in painting ceilings and other such surfaces.

The 8 ft. extension enables a man to reach a height of 14 ft. from the ground level. Any length of extension can be furnished upon specification. For painting within arm's length the gun can be easily detached and used as a hand spray.

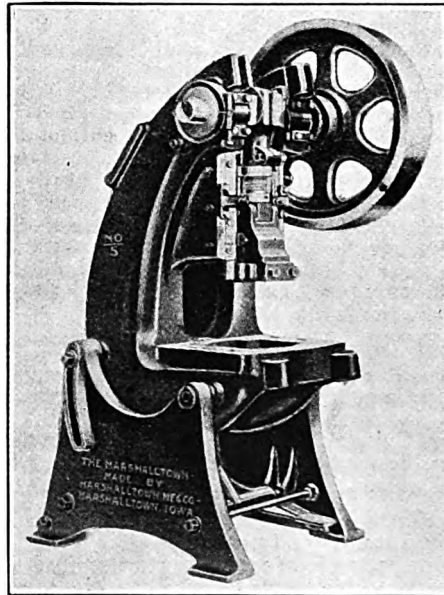
A slight pull on the operating handle of the extension moves the air and paint valves of the spray gun simultaneously. The regular unit comprises the extension, a Milburn type E gun, a pressure feed tank with regulators and 25 ft. of paint, and air hose with connections from the compressor to the pressure container.

The extension is well constructed of strong tubing and has the valve and angle controls close to the bottom for easy manipulation of the spray. It is claimed to be light in weight and well balanced.

Inclinable Press.

The Marshalltown Manufacturing Co., of Marshalltown, Ia., U.S.A., have perfected a line of inclinable power presses in five sizes. Both plain and geared models are included.

These presses resemble the standard line marketed by this company. A wrist pin connection is used in the crank joint instead of a ball and socket. It is said to have a large pressure area and to be snug and tight at all times. The die space of the machine is large, permitting the use of leader-pin die-sets,



and sub-dies. The cranks are extended long enough on both ends to attach cranks for any type of automatic feed. The bar knock-out in the slide is of rugged construction and the clutch is simple and dependable. All parts are of generous size to ensure long life.

Electrical Goods

Buyers' Notes for Retail Dealers

Sydney

The Australian General Electric Co. Ltd., of 93-95 Clarence-street, Sydney, are showing a wide variety of household accessories and appliances. The "Hotpoint" toaster deals with two slices of bread at once without handling. When one side of the bread is toasted the untoasted side is put into position by opening and closing the bread holder.

The "Hotpoint" electric ranges are now made in Australia, and in sizes ranging from the low oven type to the cabinet range type. Portable stoves may be used for cooking at the table. They boil, stew or toast—any two operations at the one time.

The "Rapid" jug, an Australian invention, will boil, it is claimed, three pints of water in four minutes. A feature is that when the lid is lifted the current is automatically cut off.

The British General Electric Co. Ltd., of Magnet House, 104-14 Clarence-street, Sydney, have in stock a wide range of electrical appliances. A feature is made of the "Gecoray" shop lighting reflectors. Each of these carries a guarantee for five years, and the service of the firm's engineers is at the disposal of clients. A new addition to the "Osram" lamp series is the "Pearl Osram," which gives a brighter yet soft and diffused light. Prices are the same as for the standard lamps. "Witton" motors for driving every class of industrial machinery are in supply, as are "Pirelli-General" wires and cables for every type. The company are sole agents in Australia and New Zealand.

The latest in "Magnet" fans is the "Gyro" oscillating fan, which, on voltages of 100 and over, is suitable for both a.c. and d.c. of the same voltage. They oscillate through an ellipse, which has a vertical movement of 110 deg., and therefore agitate a greater area of air than does an ordinary model.

Under the "Magnet" brand are included a dozen electric fires in as many designs and prices. Cookers include the most recent "Magnet" type, with two open coil boiling plates, and spacious oven fitted with a white enamel crown plate. The stove rests on legs of a convenient height. Another feature is a cooking plate to take the place of the gas ring. An electric bread baking oven and the "Magnet" vacuum cleaner, lately reduced in price, are also in stock.

Crompton, Parkinson Ltd., 35a York-street, Sydney, is the title of the amalgamated firms of Crompton & Co. Ltd. and F. & A. Parkinson Ltd. The factories at Guiseley and Chelmsford, England, are engaged in the manufacture of electric power plant for municipal and industrial undertakings.

The "Tru Wat" auto synchronous motor is a new production, adapted for use in smaller sizes, but arranged on the same principle as the standard auto synchronous machine, except that the exciter is embodied in the design of the main motor, the same magnetic flux being arranged to energise both the main motor windings and the exciter windings. The result is a saving in first cost, and the machine is more compact and occupies less space than the standard size. The control of the motor is simple, the only operation required being the closing of the

main switch and the operating of a rotor starter exactly in the same way as for a standard slipping induction motor. The synchronising of the machine is automatic, no attention being required on the part of the operator. The new motor is standardised up to outputs of 125 h.p. and is suitable for all installations where it is required to improve the power factor, and for use on those supplies where preferential tariffs are provided for machines operating at unity power factor.

John Danks & Son Pty. Ltd., of 324-34 Pitt-street, Sydney, are making a special feature of McLary's electric ranges. New features have been added to these appliances of late. The removable pull-out elements make it easy for the stove to be cleaned, the whole interior being exposed when they are taken out. The elements are cast in a solid piece, so that there is no danger of warping. It is claimed that cooking electrically is more economical than cooking by any other means, and that a feature of electric cooking is the reduced shrinkage of meats.

Thomas A. Edison Ltd., of 364-72 Kent-street, Sydney, are handling the Edison storage battery, an alkaline battery for which it is claimed that it can be short circuited, changed the wrong way round and neglected for long periods without being damaged in any way.

The Edison primary batteries are used in Australia on a large number of railways for automatic signalling purposes, and are becoming popular for use in radio sets in the country where electric current is not conveniently available for recharging. The battery can be recharged by the use of new plates and solution.

Important improvements have been made to the Ediphone dictating machine in the last few months. The apparatus now has an automatic correction index slip, by the use of which corrections may be easily made. The safety alarm signal prevents the possibility of dictation not being made on the cylinder. Stopping, starting and repeating devices are also new features.

W. S. Friend & Co., of 113 York-street, Sydney, are featuring the "Superior" electric toaster, a device for which several advantages are claimed, one of these being the low retail price, and another the small current consumption. The "Hecla" combination cooker consists of two heating units for boiling, frying, stewing, toasting and grilling, and a detachable ovenette for baking and roasting.

S. Hoffnung & Co. Ltd., of 163 Pitt-street, Sydney, have a complete range of "Osram" electric lamps in stock, and they also carry a variety of special lamps, such as coloured, sprayed, frosted, pearl and natural coloured bulbs. Under their own brand, "Protector," the firm feature an electric iron, well finished and attractive in appearance. Heavily nickelplated, it is guaranteed for two years. Available also are the "Magnet" electrical household appliances, including vacuum cleaners, a toaster which toasts two slices of bread on both sides in two minutes, kettles, saucepans and so forth.

A neat fitting is the "Osglim" nightlight, consisting of an attractive stand supporting a lamp, which will "burn" 150 hours for one penny.

The new single slice "toastmaster" toasts a slice of bread both sides at once, and then automatically switches off the current and ejects the bread from the toaster.

"Marelli" electric fans in all sizes and suitable for all voltages and currents are in stock, as are bedside reading lamps in a variety of attractive finishes and decorations, and fitted with a clamp in a case so that they may be fixed to bed rails and backs of chairs or desks.

Keep, Macpherson Ltd., of 252 George-street, Sydney, are making a big display in their electrical department, including Winchester flashlights, batteries and radio batteries. An assortment of eighteen flashlights should help to make an arrestive window display, being made up in six colours. These are sold in complete assortment only, and an attractive counter display card is supplied with each assortment. New is the special focusing flashlight, with a range of 1500 ft. Where the maximum range is not essential a range of 1000 ft. is obtained by the "Mazda" standard bulb for a five-cell flashlight.

The "Hecla" kettle is made of solid copper, and the internal heating elements can be renewed. With the hot water jug there is practically no risk of shock, as the lifting of the lid automatically cuts off the current.

Martin De Launay & Co. Ltd., of Clarence and Druitt streets, Sydney (and at Newcastle), have recently enlarged and improved their showroom, so as to display the goods to the best advantage. Included in the stocks are "Uran" lamps of various kinds. The "Uran" central lamp, suitable for railways, ships or places subject to vibration, is pear-shaped and very resistant. Even when the globes are rolled along the floor or roughly shaken the wires will not break. Drawn-wire and gas-filled lamps are made under the same name.

Noyes Bros. (Sydney) Ltd., of 115 Clarence-street, Sydney, have available the "Creda" products. A useful device is the "Creda" electric boiling ring, which will boil, toast and steam, or warm a small room. Both open and luminous types are supplied. Another feature is a new series of kettles in three sizes, all of which have extra heavy bodies, handles and feet, and large diameter lids and swan-neck spouts.

A feature of the "Creda" electric iron is its fine mica elements, and it has holding-down nuts instead of screws, an improved plug and a spring guard that can be swung from side to side out of contact with the operator's arm. The heating is distributed over the whole surface.

Siemens (Australia) Pty. Ltd., of 205 Clarence-street, Sydney, have recently taken over some new agencies. The "Sauter" time switches are useful for the automatic control of lighting and power circuits and are designed for a variety of requirements—for one light or one thousand, for a small fan or a sky sign, or a 100 h.p. motor.

The firm are also handling the Elliott instruments used by engineers and manufacturers in the design and construction of switchboards. Stocks are held of all instruments most frequently called for, and the complete list includes a wide range of switchboards, portable and laboratory instruments.

Swans Ltd., of 304 Clarence-street, Sydney, have a model bathroom fitted with the "Hecla" bath heater. The apparatus requires very little floor space, being only 16 in. in diameter, and may be placed in any convenient corner of the bathroom. A directional tap delivers the hot water to bath, basin or shower. The "Hecla" electric saucepan is fitted with two side handles for lifting and three wooden feet that enable it to be used on any table.

A twelve months' guarantee is given. The "Hecla" electric hot water service, shown in operation, maintains a constant supply of hot water at 160 deg., the operation being continuous and automatic. The water reservoir is of heavy gauge tinned copper, thus permitting the water to be used for cooking purposes.

W. G. Watson & Co Ltd., of 279 Clarence-street, Sydney, distributors for "Asea" (the Swedish General Electric Ltd., Sweden and London), are showing precision gears for all classes of electric drive. New are the a.c. commutator motors, both single and three phase for obtaining variable speed and for power factory connection. The principal characteristics of these motors is their simple starting and speed regulation, by means of brush shifting. No apparatus is necessary for starting and the speed can be varied within a wide range, normally 1:3, but in special cases 1:4, and the motor can be regulated to run at any desired speed within these limits. The speed is practically independent of the load and the motor will continuously develop its normal torque at all speeds.

As factory representatives of Wickins Durable Lamp Shade Co. Ltd., they are showing a wide range of shades in various designs and colours in silk and papier-mache. They are also handling the new "Universal" electric floor polisher, which cleans, waxes and polishes the floor in one operation.

Melbourne

Thomas Abbott & Co., of McEwan House, Little Collins-street, Melbourne, are manufacturers of special electrical appliances which have become well known throughout the Commonwealth during the past few years.

Their electric water-heaters, known as the "Triton," have been developed by experience, and are now recognised as a standard in the trade. Different patterns are available, suitable for all requirements, and models are either for central systems, permitting hot water to be drawn when and where it is needed, or local heaters for particular purposes, installed as near as possible to the point where the supply is to be used. Where several outlets are needed fairly close together, the central system is conveniently installed in the ceiling, and bath, hand basin, kitchen sink, and troughs may be supplied with water at a high temperature. The element is usually of the continuous type, 300 to 500 watts, or sometimes a larger element is fitted, thermostatically controlled. The sizes made are 30 and 50 gallons capacity. In the average house, where two rooms have to be supplied, the smaller No. 5 or 6 "Triton" is advised. The heater is fed from a small cistern, and all the advantages of a central system may thus be had with a minimum outlay. For cafes the No. 13 heater is recommended. It is intended to provide boiling water constantly. By preheating the water in a large container, and feeding to a smaller one, it is possible to have boiling water always available, and ensure a full supply for peak periods. An excellent bath-heater is also made, and an electric copper, either for domestic or commercial purposes.

A convecting radiator for heating rooms or offices has special features, and differs from the conventional designs. The central element is fitted within a neat cage of circular construction, which radiates heat in every direction. It is thus free from the objection that parts of the room remain unwarmed. Made in three sizes, 800, 1200, and 1500 watt, the cost is moderate, while the running expense is correspondingly low.

"Triton" products are obtainable from all electrical houses, and also from the manufacturers direct. An illustrated catalogue is supplied on request.

The British General Electric Co. Ltd., of 590 Bourke-street, Melbourne, are experts in the supply and installation of lighting equipment for every purpose. For the store of to-day, with its urgent need of effective lighting and display, proper methods of window illumination are essential. For this purpose the company have a series of "Gecoray" reflectors adapted to suit every window, no matter what the problem. Ordinary electric lamps are liable to cast shadows, or give a light which is harsh and unpleasant, and the modern type of reflector is designed not only to light the display efficiently, but to ensure a soft quality which is pleasant to the eye. A regular part of this business is the service offered, the firm freely advising, and adjusting the appliances to ensure satisfaction.

"Britalux" dust-proof lighting units are supplied to meet the demand for a dust-proof lamp at moderate cost. The glass used in these lamps is of a special, low-absorption quality, giving a good distribution of light.

Under the name of "Magnet" a complete list of domestic and other electrical appliances is supplied, each carrying the guarantee of the manufacturers. Electric irons, fans, cooking stoves, toasters and grillers are all shown. For the coming season a range of electric fires is featured, in the modern pattern, which bids fair to be in most demand this year.

In addition to household and domestic goods, the company are large suppliers of all materials for electrical installation and equipment. This includes electric motors, cables, switchgear and technical apparatus of all kinds.

John Danks & Son Pty. Ltd., of 391-403 Bourke-street, Melbourne, have recently made an important extension of their electrical display department on the second floor of the warehouse. In addition to domestic electric appliances, lighting equipment, lamps, and glassware are now on view. Practical methods of showing the various lighting units have been adopted, and by a system of switching it is possible to exhibit any light or combination of lights without confusion. Recesses are provided for radiators and electric fires, which may be seen in use under ordinary conditions, and the whole presents a most interesting and attractive scheme of display.

Modern glassware, with its wealth of shades and tones, offers a wide selection of illuminating equipment, really good fittings being available at moderate expense. There are many electric standard lamps which will appeal to buyers. Some neat little types are offered for the table or bedroom, often with movable stands, permitting the light to be directed exactly where required. Coming to domestic goods, the "Hecla" products are again prominent. This Australian plant has made great strides in the manufacture of kitchen appliances—grillers, cookers, and kettles. The finish and class of nickel are of quite a high standard. A handy electric jug, the "Boilo," is a good example of "Hecla" work. Of heavy earthenware, this is intended for use in any part of the house, providing hot water in a few minutes.

Amongst imported electrical lines perhaps the Manning-Bowman goods are one of the best known. This maker provides what might be called the "de luxe" grade in coffee percolators, grillers, toasters, and similar articles. Every piece is of fine design and solid appearance. A shipment of "Yale" torches should be mentioned. The "Yale" series provides a type suited to every class of buyer; the prices are "right" and quality reliable.

A comprehensive display of electric ranges includes the McClary in some sixteen different numbers. Demonstrations are given from time to time of actual working. An excellent catalogue of the McClary stoves deserves special notice. It is illustrated in detail, admirably printed, while the clarity and prac-

tical nature of the reading matter are to be commended.

In the section devoted to electric fittings, wiring, and installation, a complete stock of everything necessary is always on hand. Cables, switches, wire, lamps and conduit are all available, and the firm are equipped for every possible electrical service.

Falk, Stadelman & Co. Ltd., of 380 Lonsdale-street, Melbourne, have opened a shipment of handy electric boiling rings, which can be sold at a remarkably low price. These are suitable for toasting, frying, and boiling. They should prove quick sellers, and any retail store might profitably carry a small stock. There are two sizes, 600 and 1000-watt capacity, the weights being 1 lb. 10 oz. and 3 lb. 13 oz. respectively.

Two electric irons, the "Premier" and "Ideal," are stocked. Both are of good quality and finish, and prices moderate. A complete range of electric lamps, glassware, and equipment is always displayed. Bowls for indirect lighting are plain or decorated, many of the effects obtained being attractive in appearance and of such tones as to harmonise with any furnishings. In addition, supplies are available of bead and fancy vellum shades; both of these are low-priced and proved sellers. Standard and statuette reading lamps are specially featured. Many are of handsome design, the statuettes representing bronzes of well-known figures. The firm are agents for Geipel's British-made cables and wires.

A patented switch of English production, known as the "Nova," possesses several points which are an improvement upon the usual type. There are fewer working parts, although the action and strength are unimpaired. The wiring terminals are shaped of one piece of metal, obviating loose contacts. Contact arms are of phosphor bronze. The base is of china, and the whole job strong and well-finished. Another good switch and fuse combined is under the firm's "Efesco" brand. A full stock is kept of bells and fittings, brackets, shade carriers, ceiling roses, conduit, and similar materials.

A handy line for retailers is the electric pocket torch, which should be regularly handled. Scarcely any small appliance is more saleable than the torch. It appeals to youth always, and is no less useful to their seniors. Selling at quite a low price, even the smallest kind is efficient. In addition to a small first cost, the refill batteries, while inexpensive, can be turned over all the year round. Those who have taken the trouble to keep a good assortment of torches and batteries have been surprised at the number which may be sold during the twelve months. A good variety of shapes and qualities may be had from this firm.

For the coming season a selection is now available of electric fires and heaters in various designs. Indications show that the type in demand for the winter will be the square pattern fire. This kind has a greater radiating surface than the cone style, which was open to the objection that it only threw a beam of heat in one direction, leaving a considerable space unwarmed. Buyers will find here a good choice of sizes and designs in all makes.

Fu'llerton, Gray & Co. Pty. Ltd., of 103 Flinders-lane, Melbourne, manufacture a range of electrical specialties covering practically all domestic requisites, and many industrial appliances. Their "Thermoleo" brand is now familiar to the trade and to the public.

A kitchenette range has been designed which merits consideration, especially where space is limited. A most efficient stove has been devised, compact and of good appearance, capable of supplying all the needs of a moderate family. The price is low for the quality offered. A portable cooker

is also a remarkably good line, within the reach of slender purses. Many other kitchen devices are made, such as kettles, toasters, grillers, urns, milk heaters, sterilisers and pie warmers.

For the winter season a series of radiators has again been prepared. New designs are included in an excellent range. In factory or workshop apparatus there is a handy electric soldering iron, strongly made and economical in use, and a glue pot which has proved a great success in wood-working plants. The latter is specially recommended for its cleanliness, and also for the ease with which it can be moved from place to place. In large works it is customary to have several installed at the various points where glueing is done.

Lists and illustrations of all "Thermoleo" products are now available.

The Lawrence & Hanson Electrical Co. Ltd., of 172-76 William-street, Melbourne, supply every description of domestic and commercial illuminants and fittings. The entire lighting field has been changed by the application in recent years of scientific principles to the proper direction and diffusion of light, while advances in the use of electricity have enabled those principles to be efficiently carried into operation.

The firm have a special type of lamp and equipment for every purpose, whether for home illumination, the display of goods in the store, or the lighting of manufacturing plants and buildings. The selection in bowls alone is very large, ranging from plain opal to the handsomely decorated marble or alabaster style. An illustrated catalogue with a comprehensive list of these supplies is issued by the firm.

Amongst household appliances electric stoves are rapidly coming into use. As distributors of McClary ranges the firm make a special display of these. The cost is now far less than formerly, and a fine electric cooker may be had for a little more than £20. The two-plate and three-plate types are made with either round or square oven. Every fitting, including elements, is removed in a moment, allowing the seamless oven to be cleaned with a damp cloth with the greatest ease. All outside parts are porcelain enamelled. A thermometer enclosed in the door enables the heat to be accurately controlled. All sizes and grades of the McClary stoves are fitted with the same quality elements, which carry the makers' guarantee.

Other kitchen appliances which are good selling lines are coffee percolators in "Hotpoint," "Universal," or "Canadian Beauty" makes; "Hecla" grillers, toasters, and cookers; and the excellent electric water-heaters made by Thos. Abbott & Co., under their "T.H.M." brand. The "Liberty" vacuum cleaner is recommended by the firm as having given entire satisfaction to users. Another very useful machine is the "Whirldry" clothes washer, which has been previously described in our columns. This appliance does the entire job without labour, and may be placed in the kitchen if desired, the washing and drying going on while other tasks are in progress.

Noyes Bros (Melb.) Pty. Ltd., of 495-501 Bourke-street, Melbourne, carry every description of electrical material and apparatus.

In the domestic section leading Australian and overseas goods are regularly stocked. "Hecla" cooking and heating appliances are prominent, while the "Universal" brand represents the American products. In this latter range are several reliable cooking units, which are so moderate in price and so useful, that any electrical department might find it advantageous to handle them.

The "Universal" combination range, E.9688, is supplied with oven and pans, and is of a compact size and shape. With a three-heat control economy

is assured, and a small family can be catered for comfortably. In the "Hecla" list is a somewhat similar stove, and there are several still smaller types of various makes. In the larger cookers the firm handle the "Creda" type. Here some attractive propositions are available, while for heavy duty, such as hotels or cafes, the "Higlow" appliances are recommended. These are made by Archibald Low & Sons, of Glasgow, who have an enviable reputation for this class of cooker.

Several small tools and workshop requisites are now electrically operated. A soldering iron, the "American Beauty," is a good example, and for this work an electrical apparatus is most economical and practical. The "Hecla" people supply a glue pot, which is also reliable for the factory, while a bench grinder, the "Apex" is considered one of the best obtainable.

Returning to household lines, the firm handle the "Hoover" vacuum cleaner, which is in use throughout Australia, and is of proven quality. For the laundry "Apex" brand electric ironers, washing machines, and vacuum cleaners are popular. The home ironer is an excellent machine. It can be folded into an upright position when not in use, occupying but 18 in. square at the base. All garments can be ironed speedily and without effort. The end of the ironing rollers is open, permitting collars, or circular garments to be easily worked, while a simple knee control leaves both hands free for operating. For commercial laundries a double-roll ironer is available, with greater capacity, but with equal simplicity of control.

Electric lamps and fittings form another important section. The various reflectors, shades, and lamps cover every need for industry or for home lighting. There are some fine globes and ceiling appliances in this department, and for store window display or interior shop lighting special equipment is featured. The "Sterling" silvered reflectors are a leading unit for display lighting. Their fine brown finish outside, and stippled silver interior are familiar to all. A special catalogue of all these illuminants may be had for the asking.

Warburton, Franki Ltd., of 380-82 Bourke-street, Melbourne, hold agencies for the Delco-Light self-contained plants for home installations, washing machines, and domestic goods.

A selection of reading lamps attracts attention in the lighting section of the firm's showroom. There are a number of ornamental standard lamps for table or bedside use, fitted in many cases with fancy shades or reflectors. One adjustable type, which is quite low in price, is of a simple design, finished in either dull or polished brass, giving a most effective appearance. Others are more elaborately made, and fitted on tall stands in various finishes.

Kitchen requisites in heating and cooking are here in "Hecla" as well as approved American makes, electric stoves, and washers. A fine washing machine is the "Delco-Light," a complete unit, worthy of inspection.

The firm are also representatives for the "Maimin" electric cutter, used for cloth cutting. For tailors and garment makers this machine is more accurate and far more speedy than hand-cutting. It is used by the trade everywhere, and is practicable for the small business as well as for large factories.

The Great Occasion ?

Great occasions do not make heroes or cowards; they simply unveil them to the eyes of men. Silently and imperceptibly, as we wake or sleep, we grow strong or we grow weak, and at last some crisis shows us what we have become.—Cannon Westcott.

Electrical Notes from New Zealand

(Specially Contributed.)

Tauranga Power Board reports good business in the sale of electrical apparatus, particularly ranges and milking motors. The indent of fifty-five motors has proved just sufficient for the season's requirements.

Wanganui-Rangitikei Power Board now has 601 large electric cookers and 716 hot-water services installed. Milking motors connected number 302, while industrial motors show a total capacity of 3788 h.p.

The following loans have been authorised for electrical works:—Poverty Bay Power Board, £44,195, being balance of £280,000 loan; Waitemata Power Board, for extension of reticulation, £80,000. The ratepayers of Waitomo Power Board have sanctioned a loan of £20,000 for erecting offices and showrooms, purchase of static condensers, and reticulation work.

At a conference between representatives of the Opotiki Borough Council and the Bay of Plenty Power Board, an agreement was reached under which the power board is to purchase the electric supply undertaking of Letts Bros. The agreement was subjected to formal assurance from the power board that no special rate would be struck in the borough to cover the purchase of the plant.

Bay of Plenty Power Board, recently formed, reports the following results of the canvass for electrical load:—Domestic installations booked, 375; milking plant motors, 313; ranges, 156; wiring for additional ranges, 35; water heaters, 362; wiring for additional water heaters, 6; lighting and heating points, 2852. Total connected load, 1977 kw. Number of guarantees signed, 400. Total amount guaranteed, £14,436. Route miles of line covered by above 153.

Work is now in hand in connection with the electrification of the Christchurch-Lyttelton railway, including the tunnel. Poles have been erected for about one mile from the Woolston station towards Heathcote station. An early start is to be made with the erection of the sub-station at Woolston, and also with the construction of the feeder line from the Addington sub-station. The material for the overhead equipment is expected to arrive in March. If no delays occur in delivery of the equipment, the work should be completed within twelve months.

The contention that no local body should be permitted to enter into competition with the business of private concerns unless clear proof is forthcoming that efficient service at reasonable cost is not being given is being urged by the Gisborne Chamber of Commerce. That body has forwarded to the Associated Chambers of Commerce a protest against the Poverty Bay Power Board trading in electrical appliances. The power board's chairman states that it is impossible to separate trading from the sale of current, and that such trading is the only efficient means of creating a demand for current.

Banks Peninsula Power Board reports that the number of electric ranges in use throughout the

district has increased during the last nine months from 50 to 85, and with orders now received, the number will reach 100 within the next two months. Approximately 10 per cent. of the board's consumers are now using electric ranges, and it is certain that the number will be greatly increased during the present year. To enable extensions to be carried out, the board proposes to raise a loan of £15,000, and application has been made to the Local Government Loans Board for approval of the loan.

Auckland Power Board has adopted a complete revision of all charges for electricity, to operate immediately. It is considered that the new system will facilitate the future re-arrangement of rates which will be called for when hydro-electric supply from Arapuni is available. The board will in future collect accounts monthly instead of every six weeks.

Although, as a result of the new tariff, the board will forego about £12,000 per year in revenue, the revised scale will be of considerable benefit to industrial consumers, as they will know exactly the amount of their maximum demand charges. It will add greatly also to the convenience of consumers generally, and the board's office work will be much simplified.

Now among the largest local authorities in New Zealand, Auckland Power Board experienced an exceptionally busy year during 1927. Additional plant was installed at the King's wharf generating station, while sub-stations were provided with further equipment. The 22,000-volt underground cable from Penrose sub-station to King's wharf, a distance of seven miles, should be ready to transmit power very shortly. Its total cost will be £110,000.

The total number of consumers is now about 43,000, and the licensed area of supply includes about 300 square miles with a population of 200,000. The main programme of the board's reticulation has been completed, and the areas supplied have responded readily in adopting the use of electricity.

Blatant Commercial Trickery.

Commercial immorality is a distasteful topic, but it cannot be ignored on that account, especially when the instance is as blatant as one reported by one of our subscribers during the past few days. It would appear that certain German manufacturers have been annoyed at the success which a certain brand of British hollowware has long enjoyed among wholesale buyers in a number of foreign countries. They have, therefore, calmly analysed the enamels used for finishing various utensils, produced a colourable imitation, and with this and a replica of the British firm's trade mark, they are doing business at prices extending even to 33 $\frac{1}{8}$ per cent. below those quoted by the British firm. The majority of hollowware and enamelledwear manufacturers in Germany will, we know, deplore this pirating as much as we do ourselves, but the fact remains that it is not the only incident of the kind which has come to light recently. Indeed, it must be said that there is more than a suspicion that commercial trickery is becoming as rife in Germany as it was in pre-war days, and that there is a real need for German manufacturers' organisations to take the matter up, lest in time suspicion begins to fall on the many as well as the few.—"The British Export Gazette."

Hardware and Machinery

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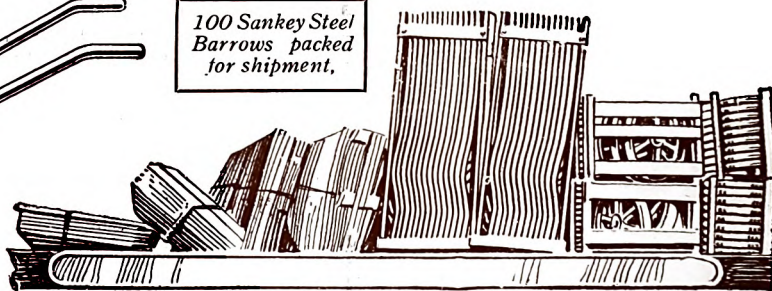
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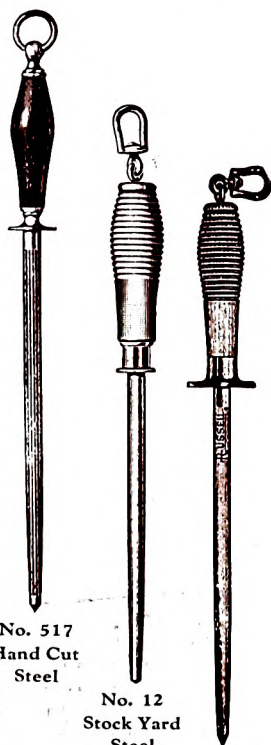
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With which is incorporated

"THE AUSTRALASIAN IRONMONGER, ENGINEER AND METAL WORKER"

Established 1886

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LONDON—63 Ludgate Hill, E.C.4.

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Subscription—10/- per annum.

For 30/- per Annum we will supply (in addition to above) The Ironmonger (London), weekly, and a copy of The Ironmonger Diary. All Post Free. Single copies 1/- each. Subscriptions payable in advance.

Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

Code of Business Ethics

A code of ethics has been adopted by the Texas Hardware and Implement Association, U.S.A. It is headed with the slogan, "To the retail dealer belongs the retail trade," and runs as follows:—

Acting as purchasing agent for his community, it is the hardware and implement merchant's function to keep informed of the merchandise essential to the convenience, comfort and restful living of the people of such community, and to supply those needs intelligently and economically.

He should maintain his position in the economic organisation by courteous and efficient service, reasonable prices and consistent integrity in his relations with those from whom he buys and those to whom he sells.

He should place merchandise orders in good faith. No circumstance justifies ordering beyond anticipated needs, in the expectation of cancelling, giving an order for immediate convenience without intention of actually owning the goods involved, or refusing to accept goods purchased by him and shipped to him in good faith.

He should not return goods received on regular order without permission from the seller, and then only in accord with mutual understandings, nor should such permission be requested after the lapse of a reasonable time.

Deduction should never be made from an invoice to compensate for damages to, or loss of merchandise in transit for which the shipper is not responsible.

Any shortage in shipment, or discrepancy between the shipment and order, should be immediately reported to the shipper.

The merchant's obligations to those from whom he buys should always be paid according to sound business practice. In no case should any such be deferred without the creditor's consent.

Cash discount should never be deducted after the discount date.

Prices quoted by sellers should not be divulged to other sellers, or misused in any other manner.

The hardware and implement merchant should keep faith with his fellow hardware and implement merchants, and seek the public's patronage only upon the basis of sound merchandising policies, truthful advertising, constructive salesmanship and efficient and faithful service.

He should contribute his full share to the advancement of the retail hardware trade by co-operating in every way possible to raise its standards and make its service most efficient.

In his relationship with other merchants the hardware and implement merchant should do as he would like to be done by, scrupulously avoiding any unfair or questionable act or practice, either to gain the

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favour of a manufacturer or wholesaler or to win the patronage of the public.

He should exemplify the highest type of alert and active citizenship, having in mind that permanent success depends upon the measure with which he conforms to the laws of state and nation, performs all duties of citizenship, and helps to promote the public welfare. He should give his best judgment and effort to all movements affecting the common good, and work for the benefit and progress of the community.

He should refuse the use of his name in the promotion of any questionable enterprise, and use his influence to safeguard the people of his community against the exploitation of unworthy causes or enterprises of doubtful consequence.

The hardware and implement merchant should be a man of character, truthful in his relationships, just in his decisions, and fair in his conduct affecting his fellow men. He should recognise that the reward of enduring respect can be won by conscientious adherence to right.

Foreign Exchanges

Foreign rates of exchange in London for cable transfer on the centres and dates indicated, compare as follows:—

Par.	—	—	Feb. 23	Feb. 27	Mar. 1	Mar. 5
4.886	New York	Dols to £	4.88	4.88	4.877	4.877
4.866	Montreal	Dols to £	4.88	4.88	4.88	4.88
25.225	Paris	Fros to £	124.00	124.00	124.00	124.02
35.000	Brussels	Bels to £	35.04	35.01	35.02	35.00
25.225	Rome	Lire to £	92.12	92.13	92.20	92.42
12.107	Amsterdam	Florin to £	12.12	12.12	12.12	12.12
12.107	Batavia	Gul to £	12.12	12.12	12.13	12.14
18.159	Stockholm	Kron to £	18.17	18.18	18.18	18.17
18.159	Oslo	Kron to £	18.32	18.32	18.32	18.31
18.159	Copenhagen	Kron to £	18.21	18.21	18.21	18.21
20.43	Berlin	Gmks to £	20.44	20.42	20.43	20.42
24	Calcutta	Pen to rup	18	18	18	18
24.58	Yokohama	Pen to yen	23 3/32	23 1/4	23 1/4	23 1/4
*	Hongkong	Pen to dol	24 1/2	24 1/4	24 1/2	24 1/2

* Par depends on rise and fall in price of Silver.

Editorial

Coupons and Cash Orders

Viewing discussions now taking place in connection with matters ecclesiastical and civil the world over, one is forced to the conclusion that clear thinking is far from general. Superstitions and prejudices die hard. Ignorance and sentiment are more in evidence than knowledge and wisdom. In the conduct of life, no doubt, the heart has a place as well as the head, but among the directive faculties reason surely ought to be supreme. Approach the average man on some question of real moment, and you will find either that he has not thought about it at all or that his thoughts are muddled or illogical.

In one of the Australian States recently, when a totalisator bill was under debate—a measure for legalising the use of the totalisator—one member of Parliament said he was keeping an open mind on the subject. Now, generally speaking, the open mind is very desirable, but on such a question, a question affecting the morals of the community, one would expect a public man to have an opinion of his own. On the question whether two and two make four, or whether light and dark are one and the same thing optically or ethically, the mind ought to be closed, not open.

Still more recently, and in a neighbouring State, another member of Parliament and a Minister of the Crown, discussed at a public meeting the coupon and cash order systems, and this is the report that comes to us:—"His own opinion, as a student of economics, was that they might just as well try to brush back the waves of the ocean as to try to deprive poor people of any system that would give credit. So far as the cash order system was concerned, it was infinitely superior as a system of credit to the old system, which was always a weight around the neck of the housewife. In Sydney and suburbs there were, he understood, fifty-two examples of cash orders in operation, spreading their tentacles throughout all districts. Personally he regarded this system as one of private contract, and the Government should not interfere with that kind of contract, which was the essence of business. They could regulate and control them, but for any Government to try to tamper with them would be to put a clog in the wheel of progress. As to the coupon system, his personal opinion was that any system that would encourage thrift, encourage honest trade, and encourage economy ought to be able to stand the test, and the coupon system appeared to have stood the test for a long time. Until it was shown that they produced unfair trading and unfair competition, he did not think they ought to be interfered with. However, he did not know much about the system, not as much as about the cash orders, which were a matter of finance."

An example of muddled thinking, "student of economics" though the speaker be! He must know that in Australia and elsewhere these systems have been challenged by financiers as well as by business men who suffer from them. To speak of them as thrifty and economical is to fly in the face of experimental evidence. They come between buyer and seller, and levy their tax on both. So far from promoting thrift, they encourage extravagance. The terms on which cash order companies accommodate people who want articles in a hurry, luxury articles often, are outrageously high. Although the purchaser may be misled in the matter, the accountant knows that full well. If these things are, as we believe, drags on the wheel of business, why should the ruling powers stand inactive? They ought to interfere as they have done in other matters considered inimical. As a matter of fact, the giving of coupons by a third party has been suppressed by the legislature in different parts of Australia, and that after and as a result of full inquiry from all concerned—coupon companies, retail dealers, and the purchasing public.

The Australian Note Issue

(Contributed by 8/223.)

At June, 1926, the banks held £30,254,000 of Australian notes, and the public held £23,635,000. At December, 1927, the banks held £20,470,000, and the public held £31,322,000. In other words, the bank's holdings decreased by nearly £10,000,000, and the public's holdings increased by nearly £8,000,000. These fluctuations are extraordinary and of the greatest interest. At the earlier date the total issue of Australian notes was £53,900,000, and at the later date £51,800,000. Since June, 1926, a considerable reduction in the total issue was effected—probably by surrender of notes in Australia for credit in London, which would enable the banks to finance the heavy importations into Australia, which must necessarily have caused severe drawings upon funds in London. But the considerable reduction in total issue of Australian notes effected after June, 1926, has been largely rendered void by the recent increase of £3,400,000 last month.

The Conversion Loan.

Of the £36,000,000 required by the Federal Treasurer to redeem the war loan due last year, £25,600,000 was provided in cash and exchange of old securities for new; thus leaving £10,400,000 to be provided by the underwriting banks. This would cause a flow of notes to the Commonwealth Bank, temporarily, until payments by that bank to the customers of other banks returned the notes, or a large proportion of them, to the other contracting banks. This would cause the cash holdings of the other banks to run low for the time being, and without any doubt the recent increase in the Australian note issue was to sweeten up the proportion of legal

tender held to liabilities of the trading banks. They must maintain a certain proportion of legal tender money to their liabilities to the public; and the partial failure of the conversion loan would reduce the legal tender holdings of the contracting banks, without reduction in their liabilities. Hence the need for increasing the note issue.

Exports of Gold.

The heavy excess of imports of merchandise over exports during 1926 and 1927 necessitated considerable exports of gold. For the six months ended December, 1926, there was exported £9,171,000 of gold, and for the corresponding six months of 1927, £2,723,000. These figures are significant in view of the fact that the gold backing held against the note issue fell from £31,367,000 in December, 1926, to £21,600,000 in December, 1927. There is no doubt that the credit structure of Australia is more and more becoming based on paper rather than on gold. This is the inevitable consequence of economic law following large issues of Government notes. The issue of notes makes financing easy for the time, but the inevitable consequence is to drive away the material money, the world-wide acceptable standard of deferred payments—gold. The easy financing causes prices to rise; the rise in prices brings large importations; large importations compel export of gold—unless external borrowing can provide funds to pay for imports.

The Great Inflation.

In 1914 the issue of Australian notes was under £10,000,000. To-day it is £51,900,000. This vast increase enables the banks to enormously increase their deposit liabilities—by some £100,000,000 to £150,000,000. These injections of credit into the economic life blood of the community sent up prices since 1914 by over 57 per cent. Now mark the seriousness of the position. The Government borrowed hundreds of millions of pounds during and after the war. These millions were spent on goods and services during the period of inflation. They only bought two-thirds of what they would have bought on the price level of 1914. Everyone hopes for and looks for a fall in the cost of living to give easement to the present hardship of living by the poorer classes—and yet when that fall occurs the public will have to provide £133 of goods to enable the Government to repay £100 of debt! Truly Australia does need to economise and to increase production.

U.S.A. Correspondence Insufficiently Stamped.

The Postal Department continues to suffer considerable loss of revenue on account of letters for the United States not bearing the correct postage. In a mail recently despatched to that country no less than 11 per cent. of the total number of letters contained in the mail were insufficiently prepaid. The impression which exists in the minds of a large number of people in Australia that the "British Empire" letter rate of postage (1½d. per ounce)

applies to correspondence for U.S.A. is, therefore, a costly one to the post office, and is undoubtedly a source of much irritation to addressees in America, who in each case have to pay double the deficiency on delivery of this underpaid correspondence.

In certain other countries, including the United States itself, it is the practice to return insufficiently stamped correspondence to the sender for prepayment of the correct postage, notwithstanding that this may involve a letter missing the mail by which the sender wished it to be despatched. The Postal Department is, however, loth to adopt such a practice in Australia if the difficulty can be overcome by other means, and it is therefore launching a further campaign with the object of reminding the public that the letter rate of postage to U.S.A. is 3d. for the first ounce and 1½d. for each additional ounce. While the penny-ha'penny stamps franks a letter to Canada, it is not sufficient for a letter to the United States of America.

Labour Employing Capital.

According to an American paper, Mr. Owen D. Young, "head of the General Electric Company," sees the day coming when instead of capital employing labour, labour will employ capital. "The worker must be made to feel, must be made to realise, that he is a property owner. General Electric is operating, in a modest measure, along these lines now. A consciousness of independence must be created—at least a feeling on the part of the man that he is working towards complete independence, and that what he gets in the world he earns, and is not handed out to him as pap." These are Mr. Young's own words. But he is opposed to government ownership, as the following extract will show:—

"The advantages of private ownership and operation are the initiative and freedom of individuals and, not less important, the economic check on their expenditure of money either for capital account and development or for operating account.

"The weakness of government ownership and operation is the tendency to suppress individual initiative, to hamper it with laws and with rules of departments; and, so far as government ownership is concerned, it takes off the economic check on expenditure and substitutes only a political check, which is highly unsatisfactory. When there is no power to levy taxes, the man who has to go to people who are free to give their money or to withhold it must make out a sound economic case for himself or he doesn't get the money. If he has to make out only a political case, he forces the money from individuals through a tax levy.

"That I regard as the whole case of government ownership and operation versus private ownership and operation, assuming that they relate to an enterprise which private capital is willing to undertake. If private capital is not willing to undertake a job which the public needs require, then there is no way of getting that job done except for the Government to undertake it through enforcing a tax levy. There are some such jobs; and if private ownership people are not ready to do them themselves, instead of objecting to the Government doing them they should co-operate and help."

Inquiry Column

Information Supplied.

Collins' Axes.—Name and address of agents supplied.

Abbott Filter.—Name and address of agents supplied.

Seller's Injectors.—Name and address of agents supplied.

Wolstenholm's Cutlery.—Name and address of agent supplied.

"Comet" Copper Frames.—Name and address of makers supplied.

McEuen & Co., Cannon-street, London.—Name and address of agent supplied.

Bone Crushing Machines.—Name and address of Melbourne maker supplied.

F. H. Ayres Ltd., London (tennis balls).—Name and address of agent supplied.

Shanks' Lawn Mowers.—Name and address of firm in Sydney able to supply given.

Conduit Tubing.—Names and addresses of Victorian manufacturers supplied.

"Isovac" Vacuum Flasks.—Name and address of Australian agent supplied.

John Wisden & Co. Ltd., London (tennis balls).—Name and address of agents supplied.

Midland Metal Spinning Co. Ltd., Wolverhampton.—Name and address of agent supplied.

Wm. Hunt & Sons, the Brades Ltd., near Birmingham.—Name and address of agents supplied.

Kelly Axe & Tool Co. Inc., Charleston, W.Va., U.S.A.—Name and address of agent supplied.

Wade & Butcher, Sheffield (cutlery).—Name and address of Australian representative supplied.

International Steel Wool Co., Springfield, Ohio, U.S.A.—Name and address of agents supplied.

Chain Wire Fencing.—Name and address of firm handling a machine for this purpose supplied.

Fayette R. Plumb Inc., Philadelphia, Pa., U.S.A. (axes).—Name and address of agent supplied.

H. W. Kearns & Co. Ltd., Broadheath, near Manchester.—Name and address of agent supplied.

Spike Fencing Chains.—Names and addresses of firms able to quote for these to be made to order supplied.

A Question of Duty.

One of our New South Wales subscribers (46/220) has received a consignment of files from the United States, the nett invoice price of which, after deducting 60 per cent. and an extra 10 per cent. discount, is \$76.52. But the "current domestic value" shown on the invoice, and on which the Customs Department levy the duty, is \$149.15, or nearly twice the invoice cost. Our correspondent wishes to know why this should be so.

A. In the case of ad valorem duties, the Australian Customs Department base the duty on the "fair market value" in the country of origin f.o.b. at port of shipment, plus 10 per cent. to cover freight and other transit charges. About the time indicated by our correspondent, the brand of files he mentions were quoted in America and for America 50 per cent. off list prices f.o.b. Chicago. On these figures the home consumption value of the consignment in question was \$92.59 at most. Only the firm concerned could explain the disparity which he finds so perplexing. The outsider can only guess.

Information Wanted.

T.U.S. Garden Shears.—Name and address of agents wanted.

"National" Galvanised Pipe.—Name and address of agent wanted.

Green's Lawn Mowers.—Name and address of N.S.W. agent wanted.

Carpathian Silver Trays and Waiters.—Name and address of Australian agent wanted.

Portable Power Saw (electric or other), suitable for using in an orchard. Perhaps on principle of automatic horse-clippers.

Saw Grinding Machinery and circular saw hardening and temporary clamps or devices.—Names and addresses of agents wanted.

Belgian Glassware.

Walter A. Cox Ltd., of 195 Clarence-street, Sydney, have lately received additions to the lines of cut glassware from Verreries de Scailmont, Man- age, Belgium. Notable among these are two new cut glass wine suites styled the "Tudor" and "Alice" respectively, each comprising decanter and six glasses. While the former has rather novel barrel-shaped tumblers, the latter is distinct by its open, bell-shaped tumblers. In each case the tumblers are made attractive with etching of fruit groups in panels in combination with the usual cut design. Also claiming attention are green-shaded hock glasses with their tall stems serrated or cut, allowing a safe grip as well as contributing to their attractiveness.

Byzanta and Other Ware.

Reslaw, Green & Co., of Danks' Buildings, Pitt-street, Sydney, have unpacked new samples from Grimwade's Ltd., Stoke-on-Trent. A very wide range of Byzanta ware is on view, embracing new styles and designs, both as to colour and treatment, and consisting of tea ware, vases, rose bowls, powder boxes, and similar lines.

Very striking and rich are the Chinese decorations on a blue ground. Shining gold, lofty temples and brilliantly coloured flowers attract the eye, yet so tastefully blended are the colours that they lend an air of refinement to the whole. Another noteworthy example bears a royal blue ground with heath-bell decorations. Attractive is another line with a dark mauve background, richly gilt, and embellished with conventionalised dog roses, and having a bright lustre finish.

Dr. Nelson's improved inhaler is now available in a specially prepared white body.

British Pottery for Australasia.

New Zealand and Australia have provided British pottery manufacturers with some exceptionally good business recently, and have, in fact, been largely responsible for the steady improvement in the Staffordshire industry's export trade during the latter part of this year. Great Britain's exports of pottery and china totalled £5,260,000 in the first 10 months of 1927, representing an increase of £500,000 on the corresponding 1926 figure, and coming within £100,000 of that for 1925. Of this total, Australia and New Zealand have taken shipments valued at approximately £1,100,000. The cheaper classes of ware still account for the bulk of the shipments to these markets, and it is encouraging to notice that in this branch of the trade British manufacturers are more than holding their own against intense Continental competition; but orders for good china-ware figured largely in Auckland and Wellington merchants' seasonal indents for the Christmas trade, and there is no doubt that a substantial business in quality lines is slowly being built up.—"The British Export Gazette."

Sundry Credits

By J. Knibb.

A trade paper published in Sydney finds itself in a position to cast some light on the origin of this worn phrase. You shall hear. "In Filthy one of our leading emporiums" (journalese for shop or store) a Lucre. man, a newcomer seemingly from "furrin" parts, was making a purchase. Not finding enough money in his pockets to pay for it, he sat down, deliberately took off a boot and a sock and "extracted therefrom a pound note, which he handed to the astonished and more or less disgusted shop assistant." You may find the "therefrom" ambiguous, but 'tis near enough.

* * * *

A scheme is under consideration for heating the whole of Reykjavik, the capital of Iceland, by water derived from subterranean hot springs. There are said to be twenty-nine volcanoes on the island, seven of them still active, including the "Great Geyser," the water issuing from which has a temperature of 127 degrees centigrade at an accessible depth. Situated on Faxa Bay in the west of the island, Reykjavik had a population of 17,679 in 1920. It is the seat of the local parliament and the home of a cultured people, a people who have preserved the Norse traditions and mythology.

* * * *

Within sight of Mount Hekla, which is to Iceland what Fujiyama is to Japan, only more so, the Icelandic geysers are not only the hottest in Europe, but probably the best known in the whole world. The "Great Geyser" or "Roarer" has today a lofty mound of siliceous materials with a great tube or well in the heart of it. This well has a hard, white lining, to the building up of which experts give fully eleven centuries. The only other hot springs at all comparable to those of Iceland are the geysers of the Yellowstone Park, U.S.A., and of New Zealand. It is from Iceland that we get the word or name geyser.

* * * *

By way of experiment wooden safety platforms were erected at certain busy street intersections in Melbourne a few years ago. One of these was removed recently to make way for a permanent structure, and in the removal silver coins began to reveal themselves. Between £2 and £3 is said to have been recovered, all dropped by careless or hustled people waiting for tramcars and disappearing through the chinks between the boards. We have it on the highest authority, the authority of the daily newspapers, that the demolition was performed in record times. Such an opportunity for earning "dirt money" does not occur every day. Whether the City Council has asserted any claim to a share in the treasure trove does not appear.

* * * *

The intimation that the Commonwealth note issue had been increased to the extent of £3,500,000 has received little notice, less, I think, than it deserves. It may be, of course, that with the growth of population more paper money is needed for currency purposes, and that even without strengthening the gold reserves this additional issue may be quite safe. But is that the position?

Paper Money.

It is known that the public did not subscribe the full amount required for the last Federal redemption loan, and some people, at least, are putting the two things together. However that may be, I cannot help feeling that the new issue is going to react upon prices and other things. Years ago I read something of the history of paper money in other places. A suggestive story it is, the moral being, as the White Queen would say, that the easy way of "making money" is a very risky way.

* * * *

Charles Dickens would have made merry over the attempt of the Commonwealth Postal Department to break up Metropolitan Melbourne for letter delivery purposes. The first attempt, I should say, for a second attempt, with a little more to recommend it, is now being made. The first was bound to fail. It was so clumsy and received so little push off from the postal authorities themselves that it never really got afloat. The department seemed rather ashamed of the thing, as well it might, and the public took no notice. In my own case I was supposed to ask my correspondents to put "P.D.28" on every communication, the "P.D." representing postal district. I didn't. I hate to advertise the ineptitude of those who guide the affairs of this country. Now we are told the silly p.d.'s have been dropped, and in their place we are to have what? The compass-numeral system of London. I am now "E.7." So be it. But official inventiveness is surely at a low ebb.

* * * *

In the realm of horology that age-long quest of mechanics, perpetual motion, has been discovered.

Winding the Clock.

So we are told. This is true, at any rate. A German firm have invented a clock that goes unstopped and unstopping, without a hand being raised to it, not for a year, but for ever, bar the clogging of the wheels or the default of the mechanism. The clock needs winding, you must understand, but the winding is done electrically. Connected to the main by plug and wire or otherwise, the clock is wound up automatically every three minutes or so. As the winding spring has a continuous standard tension, the clock will run for about twenty-four hours from stored-up power alone should the flow of electric current be interrupted. And the running costs? About 2d. or 3d. a year, we are informed. Of plain appearance—I have seen a picture—the clock is well made in every part, and the price compares favourably with that of other good timepieces of similar form.

* * * *

I have called this perpetual motion, but obviously it is nothing of the kind. The power to move is from without, not from within, and there is no assurance of perpetuity. A self-moving machine or apparatus not subject to arrest was long sought in different countries. Many mechanics spent their means and time and talents in this kind of research, but all in vain. No way of securing perpetual movement has ever been discovered, and to-day it is recognised that the quest is useless. Men no longer waste themselves on such futile endeavours. They know that force is a fixed quantity, that before getting power out of a machine they must by some means put power into it. A self-mover is a practical impossibility, a thing altogether beyond the range of human accomplishment. All that men now try to do is to harness and transmit the power which they did nothing and can do nothing to create. The power that drives the steam piston was not produced by the engineer. It comes from the coal consumed in the furnace.

Perpetual Motion.

Novelties and New Samples

Metal Containers for Line Levels.

E. H. Collis Pty. Ltd., Beaucaire House, 103 York-street, Sydney, have received from their principals, John Rabone & Sons Ltd., Birmingham, England, samples of their aluminium line levels in metal containers. They are a vast improvement on the old cardboard box which was supplied previously, and their advent obviates any possibility of the level being smashed or bent while being carried round in tool bags.

Continental Timekeepers.

S. Segal & Co. Ltd., of Commerce House, Melbourne, and Sydney, are agents for the well-known "Veglia" clocks, an Italian make, which has for many years been marketed throughout the civilised world. Every design of clock is included in this selection, the alarms with illuminated or plain dials being specially good.

There are also samples of watches of German and Swiss manufacture which are handy lines for the hardware trade. They are quite well made, and retail at low prices which yet permit a fair margin to the dealer.

Swedish Auger Bits.

Nelson & Co. Ltd., of 47 King-street, Sydney, representing Johansson & Co., Eskilstuna, Sweden, manufacturers of precision tools, have lately received a shipment of "Irwin" pattern solid centre auger bits. These are made from high-grade crucible steel, rather highly polished, and have only one crimp, which eliminates the possibility of choking. The design and quality of these bits are such that appreciably less pressure is required when using than is the case with other makes, and a further point is made of their perfectly clean cutting both in ends or sides of the timber. Supplies can now be obtained from wholesale and engineering supply houses in sizes from $\frac{1}{8}$ to 1 in. in sixteenths.

German Cutlery.

Mr. C. J. Best, the representative of Gebr. Krusius, of Solingen, has been displaying at Commerce House, Melbourne, a large range of cutlery from his principals. Quite a feature of this manufacture is the selection of scissors of all kinds. A novelty is a hollow ground pattern offered as an excellent idea, permitting a good edge to be maintained without interfering with the setting. Every kind of scissors is represented, from the small nail variety to the largest tailors' shears in which these makers specialise. The range includes barbers', drapers', and surgical types in all sizes. The prices quoted in all cases are remarkably low, and the steel is said to be of reliable grade. Several lines in hunting knives, horn-handled, and a number of razors complete an interesting set of samples.

During the month of March Mr. Best will have a similar set of samples at Post Office Chambers, 333 George-street, Sydney. From Sydney he will proceed to Adelaide and Perth, and at a later date he expects to leave for Europe by mail steamer.

American Vacuum Cleaners.

The "Vacuette" is the name of an inexpensive vacuum cleaner made by the Scott & Fetzer Co., of Cleveland, Ohio, U.S.A., who are represented in Australia by the Vacuette Distributing Co., 160 Castlereagh-street, Sydney. The agents carry

stocks and co-operate with dealers in advertising and display. Easily operated by hand, the "Vacuette" has no complicated parts to get out of order. The device works automatically as it is moved to and fro, the suction set up being strong enough to remove embedded dirt from the floor.

The long handle may be removed and replaced by a short handle, thus making a handy little cleaner for use in awkward corners or closed car interiors.

The firm also stock an electric cleaner, the chief features of which are that the motor is air cooled to eliminate risk of overheating, and the speed fan has a speed of 10,600 revolutions a minute giving a very powerful suction. While designed for electric current, it can easily be converted into a hand machine.

Tennis Strings.

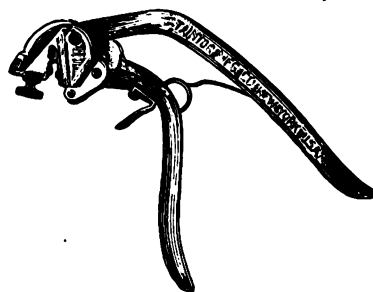
Ryall & Brock, of Hardware House, Post Office-place, Melbourne, are in possession of samples of tennis strings from British Music Strings Ltd., of London.

Most tennis racquets are strung in Australia, as a considerable saving of duty is thus effected. There is therefore quite a demand here for reliable gut. For many years manufacturers of violin and cello strings, this firm came to the field well equipped for the supply of tennis gut. They were able to apply to tennis strings their special waterproofing process, a method of treatment which was originally used to protect music strings in tropical climates, and is now adopted for export trade. "Arena" waterproof tennis strings are not easy to make, but the resultant security amply justifies, it is claimed, the additional trouble and expense.

The representatives have opened a small shipment of gut of various grades, and are at the moment able to quote for supplies from stock as well as for indent. Tennis strings are in many different grades, as well as "extra superfine."

Natural Grip Saw Set.

Mr. Edward G. Vaughan, of 352 Kent-street, Sydney, Australian representative for John H. Graham & Co., New York, is showing an improved Taintor saw set listed No. 27. The particular feature of this tool is the pistol grip construction of the handles, which conform more naturally to the hand



than the former type, and give the operator a better grip and control of the tool. A further point is the attachment of a "stop," which prevents the hand from slipping. In other respects this new number has the same features as Taintor Nos. 7 and 7½, including double action and circular movements, but it has a special gunmetal finish.

Handled Metal Scrubbers.

Scott, Henderson & Co., of 9-13 Young-street, Sydney, are the Australian agents for the Williams Co., London, Ohio, U.S.A., makers of "Sunray" steel



wool as used for scouring pots, pans and glassware, as well as for a number of other purposes. Handle pads now provide a new and more efficient way of using the household cleaner. The closely woven pads of steel fit snugly round a smooth wood handle, which provides a firm and easy grip. This saves the hands from contact with soap, grease and water, and gives stronger scouring pressure without tiring the fingers. When once locked on the handle, the pads cling tightly and will not lose shape or come off until entirely used up. Refill pads for the purpose are provided in cartons of half a dozen. Ordinary kitchen soap is used. For large surfaces three handle pads are mounted on a smooth, brush-shaped handle, and when worn out can be replaced with new pads as with the standard pan handle.

Continental Manufactures.

Erwin Miller & Co., of Sheffield House, 310 Pitt-street, Sydney, are agents in Australia and New Zealand for Sigg Ltd., Frauenfeld, Switzerland, manufacturers of aluminium ware.

While a specialty is made of teapots and kettles with insulated handles, every kind of household utensil is made by the Swiss firm. Noteworthy are saucepans with wooden and porcelain handles and flanged edges, and an improved hot-water bottle is being shown. It is cast in one piece and is corrugated, two factors which make for strength. Being kidney-shaped and flat instead of round, it retains its shape. An article worthy of mention is a neat-looking and well-finished box packed with twenty-one useful kitchen utensils. The box is made in two pieces, which can be easily taken apart and then put together in the form of a handy shelf. The method is said to be popular, since it makes for economy in freight charges and the retailer is saved the trouble of repacking, all that is necessary being to attach a label to the box and address to the purchaser. Hot-water jugs, coffee pots, sandwich boxes, and other lines are also shown.

Koelner Kunstfiguren Fabrik, Cologne, Germany, manufacture clocks and ornaments, of quaint and unique designs. They are now turning out a series of typically Australian subjects, including kangaroos, kookaburras, cockatoos, and so on. Book ends are in variety. Especially noticeable is a pair shaped like books, a solemn-looking owl wearing glasses being perched on the stands.

Iceless Ice Chest.

"Icyball" is the name given to a refrigerator that makes its own ice and is inexpensive to operate. The refrigerating unit consists of two iron balls, one of which is outside and the other inside the cabinet, with a pipe connecting the two. The outside ball contains a non-poisonous liquid, and when this is heated it turns into a gas, finds its way into the ball inside the cabinet, and sets up condensation. When sufficient gas has entered the ball inside the

cabinet, a whistle gives warning that the operation is complete. If the pressure is continued, a safety seal breaks, permitting slow release of the non-poisonous vapour. No great heat is required to turn the liquid into gas, and an ordinary household lamp, "Primus" stove, wood or coal fire will serve the purpose.

The operation of heating the liquid takes from an hour to an hour and a half, and the device must be reheated every 24 or 36 hours, after which period the gas begins to enter the outside ball and is there turned into liquid again. It is unnecessary to change the liquid with which the device is charged, the only cost of operating the refrigerator being the price of the heating fuel. The liquid is non-corrosive, and the iron balls do not deteriorate. The temperature falls to such a degree that ice or ice cream may be made if desired, and a receptacle for this purpose is provided with the equipment.

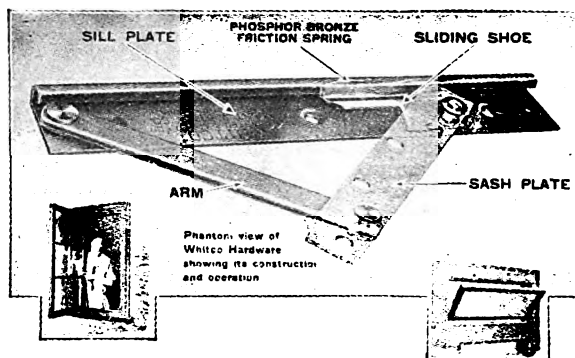
The cabinet has a storage capacity of 4½ cub. ft. and has two shelves. The interior is of white enamel and the exterior white duco, while a 3 in. cork insulation adds to the cooling properties.

The retail price of the refrigerator is £25, and agents are to be appointed in country towns.

Motors Ltd., of 143-45 Castlereagh-street, Sydney, are the Australian representatives.

New Casement Fitting.

On behalf of the Vincent Whitney Co., San Francisco, U.S.A., Stevenson & Co., of Palm Court, O'Connell-street, Sydney, are introducing the "Whitco" casement and transom hardware fitting. This represents a novel and highly efficient control for casement windows and fanlights, made in two pieces only, overcoming the necessity for both hinges and adjusters while ensuring a perfect balance of the window swinging by pivotal action at the top and bottom. It also allows that either window or fanlight can be opened to any angle, thus facilitating cleaning the outside from within, and admitting a greater quantity of air than is obtained with the use of other casement and transom openers. The construction of this device is such that it is self-adjusting. The sash can be swung to any desired position, where it is automatically held firmly without rattle. The "Whitco" fitting is offered in solid brass and in rust-proof steel, in three sizes, viz.: 8, 10 and 12 in. long. There are no "lefts or rights." Where the sash is to swing



to the left or the right determines which piece is to be placed at the top or bottom, and a notable feature is that, when installed and the window or fanlight closed, the fittings are entirely concealed. A further notable point is the simple and effective manner in which fly screens can be attached to casement windows without interfering with the "Whitco" fitting. Each set is packed in a neat carton 8 in. long by 1 in. square, containing the necessary screws, and full instructions for installing.

For Kitchen and Camp.

From The Welsh Tinplate & Metal Stamping Co. Ltd., Llanelli, Wales, the representatives, Walter A. Cox Ltd., 195 Clarence-street, Sydney, have lately received several lines showing modifications or improvements on former samples. Their white enamelled seamless mixing bowl or wash-up is now made with a half-rolled rim in place of the straight edge as formerly, affording a better grip of the utensil, especially when the user's hands are moist. Enamelled kettles are now available with extra high handles and larger lids, the convenience of which will be apparent to buyers, while the spouts are seamless-drawn and electrically welded to the body.

For the use of campers and those householders who are somewhat nervous of any possible danger from "Primus" stoves, the manufacturers, B. A. Hjorth & Co., Stockholm, Sweden, are now supplying round metal containers made from seamless steel and red japanned to hold Nos. 1 and 5 "Primus" stoves. These containers also save the possibility of drippings of oil on the table, and serve as an extinguisher in the event of a flare through the temporary choking of the nipple. They are fitted with bucket handles for easy portage purposes. When desired, stove and container are supplied packed together. Yet another innovation is that the small "Primus" is now fitted with attached collapsible legs in place of the screw-in type.

From Sellman & Hill, Wolverhampton, England, is shown a new range of aluminium jelly moulds in sizes suitable for restaurants and small families. When required, these are supplied in nests of four moulds in nicely made cartons. The same manufacturers furnish a line of hammered aluminium teapots with either blackwood or cane-covered handles in different colours. These goods are well made and finished, and are moderate in price.

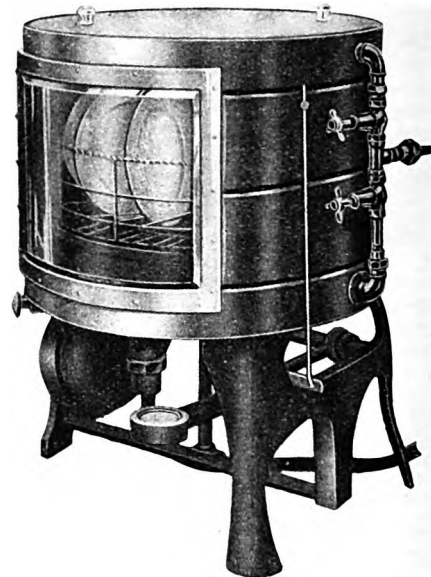
Domestic Washing Machines.

Hydro Electric Washing Machines Ltd., of 247 Elizabeth-street, Sydney, are introducing a new domestic hydro-electric washing machine, which is set upon a strong cast iron frame engaging only about three square feet of space.

To instal this machine it requires only provision for connecting flexible electric wire to an ordinary double plug switch to serve it with heat and power respectively, while a short length of rubber tubing is connected to the water service, and similarly to an outlet to carry off the dirty water. The heat can be switched on while water is being run into the container, the quantity of water and heat being regulated as required. The heat is under full control, and the water can be brought to boiling point and kept at that temperature as long as necessary. By switching on the power point, a reversing rotary action of the container is set up, effectively tossing the clothes from side to side in a well-agitated manner, and as there are no projections within the container, there is no fear whatever of damage to the most delicate fabrics. On account of the agitation of the clothes and water, less soap is required than in the case of the ordinary clothes washing methods. After the clothes have been sufficiently washed, a tap at the bottom of the cylinder is released to dispose of the dirty water, and fresh water is admitted for rinsing and subsequently blueing the clothes, in each case the power being again switched on to effect these operations. All these processes are carried out while the machine is resting on its side by two spindle arms. The necessity for wringing clothes is obviated by simply draining off the water, swinging the machine into an upright position, releasing a small lever at the side, and then switching on at the power point. Rapid continuous rotation of the container by centrifugal force quickly dries off the clothes sufficiently for ironing or sunning as the case may be. The container is constructed of

galvanised copper set within an outer cylinder of the same metal white enamelled on the outside. It is fitted with a specially constructed heating element, a quarter-horse-power motor, and simple gears, all neatly encased.

The same firm have patented a dish-washing machine which they will shortly be placing on the market. The model exhibited is of novel design so far as the internal arrangements are concerned, simplicity being a feature which the makers stress as there are only two moving parts within the container—a driving shaft and a two-blade propeller. Simple gearing contained within the lid, and the



heating element, complete the details. Set upon a neat cast iron frame, well elevated from the floor, the tank is made of copper nicely finished with white enamel on the outside. The driving shaft and propeller are fitted at the bottom in the inside, heat and power being obtained by flexible electric wire with plug connected to an ordinary power point. About four gallons of water only are necessary for washing a whole cage or container full of articles. Six slightly varying cages for holding the different classes of crockery, glassware and cutlery are provided. As in the case of the washing machine, the heat of the water can be brought to boiling point and is under full control. After the water has been sufficiently heated, connection is made to the power point which drives the propeller at about 600 revolutions per minute, violently agitating the water and sending it against four vertical deflectors attached inside the cylinder or tank. The deflectors in turn direct the water with great force over the articles to be washed. In practice the procedure is to first load the cages with the dishes, which are then placed inside the machine. The release of a foot pedal lowers them to the bottom, when the operation, as briefly described above for washing, is set in motion, requiring only about ten seconds for each batch, equal to two dozen plates. The foot pedal is then pressed down, which operation lifts the lid of the machine and brings the cage with its contents to the top, so that it can easily be lifted out. The heat of the water being retained during the washing, the articles will dry naturally in a few seconds while remaining in the cage. Provision is made for the collection and disposal of scraps of food, etc., from the dishes, and an overflow pipe safeguards filling the machine beyond the required amount of water.

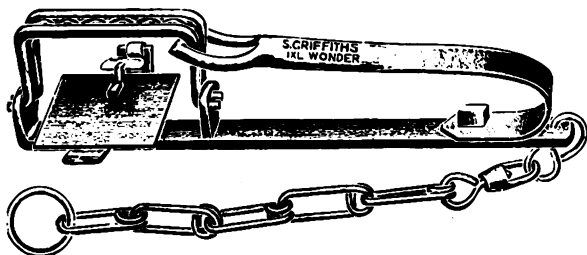
This machine has been expressly designed for use in hotels, restaurants, boarding-houses, hospitals, and other large establishments.

British Locks, Tools and Traps.

Mr. Howard F. Hudson, of 352 Kent-street, Sydney, lately returned from a visit to his principals, who, at his suggestion, have adopted new ideas in regard to certain manufactures with a view to more thoroughly meeting local requirements, and, in some instances, competition. While abroad Mr. Hudson secured several new agencies, particulars of which will be announced shortly with the arrival of sample ranges. As the outcome of his trip, Mr. Hudson has increased his local staff, reinstated Mr. J. W. Barter to the control of his permanent sample room, 380 Burke-street, Melbourne, and has also appointed as New Zealand representative, Mr. W. F. Johnston, whose address is Box 1121, G.P.O., Auckland.

From E. Tonks & Sons Ltd., Willenhall, new patterns in lock sets and similar goods are shown, notably a heavy and beautifully burnished mortise lock with two front push bolts controlling the lock-latch. These can be supplied in several new finishes, as is the case also with other door sets, including door plates and handles, namely, florentine, antique brass, blue-brown, florentine bronzed and relieved, chocolate and satin brass, as well as regular standard finishes. A new departure for the convenience of buyers is the issue in future of separate catalogues in their respective classes, such as cabinet locks, cylinder goods for architects' requirements, rimlocks, builders' brassfoundry, and a section for general lines.

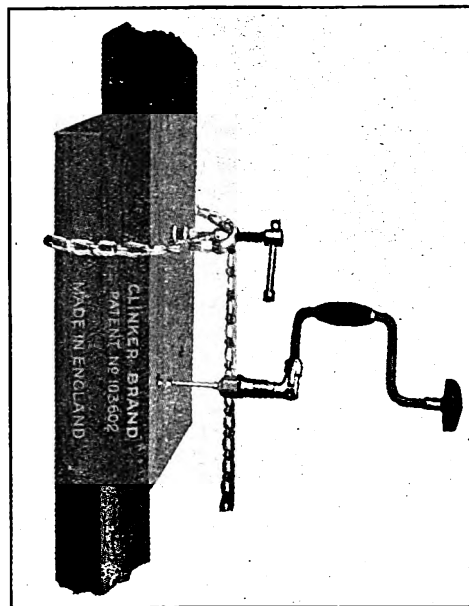
S. Griffiths & Sons, Wednesfield, have added two new numbers to their lines of rabbit traps, which are listed as "I.X.L. Wonder" and "I.X.L. Super." Both are expressly made for the Commonwealth and Dominion markets and designed to compete with the American types now offering. They are particularly strong, heavy weight, but inexpensive. The actual difference between these two is that the "I.X.L. Super" is fitted with a special convex steel spring while that of the "Wonder" is a stout flat spring, being rather easier for setting. All this makers'



rabbit traps can now be supplied six or twelve dozen in cases, in addition to the usual casks and tanks.

Included in a new range of "Footprint" and "Domino" tools, embracing carpenters', motor mechanics', engineers' and plumbers', from Thos. B. Ellin (Footprint Works) Ltd., Sheffield, is a patent extension hack saw frame fitted with a comfortable hand-saw handle in place of the usual round grip handle. This, it is claimed, gives a better balance to the frame, and consequently the blade also, and effects easier and more accurate cutting. The same idea is also applied to their girder saw frame, where the benefit of balance will be appreciated by craftsmen. Certain refinements have also been made to other tools including "Footprint"

all-steel shifting spanners, wherein the handles are now made parallel, the whole length giving added strength, while the jaws, too, are made slightly longer and tapered to permit easier access to the work. From the works of Crampton Bros. Ltd., Sheffield, acquired some time ago by Ellins, is shown a new patent chain cramp registered "Clinker" brand, designed for the use of builders and con-



tractors, and stated to be efficient for use in cramping any regular or irregular objects, such as pipe line or shafting, beam or post ends, doors, windows, gates, temporary scaffolding, etc. In the new range of joiners' cramps, known as "Climax" and "Clinker" brands, buyers and users alike will notice various minor improvements. Samples of these and other specialties are exhibited at the British Manufacturers' Exhibition, now running in Melbourne.

Wm. Park & Co., Wigan, England, are well represented by a range of shovels, spades and forks. On this occasion a special feature is being made of all steel weldless digging forks fitted with their patent fildee handles, which they predict will ultimately supersede the older type.

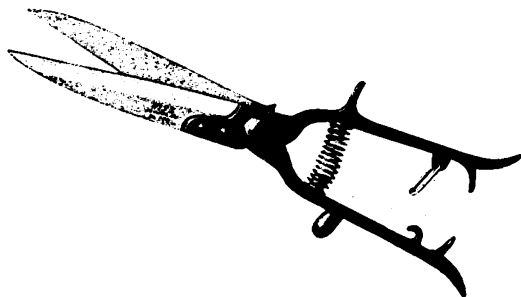
Incandescent Kerosene Lamps.

Mr. T. W. Sands, of 372 Lonsdale-street, Melbourne, who has for years specialised in lamps and lighting appliances, has landed for the winter season the "Ironclad" incandescent mantle lamps. This type has quite changed the lighting value of kerosene. The "Ironclad" uses only a pint of kerosene for eight hours' burning, while the mantle greatly adds to the brilliancy. It gives fully 100 c.p. These lamps are stocked in the table, hanging, and bracket patterns, and finished in oxidised copper or nickel plated; the construction is sturdy and the design attractive.

Mr. Sands also carries all petrol air gas lamps and parts; a special heat-proof globe, and Australian silk petrol air gas mantles. Self-heating petrol irons are most efficient, and may also be obtained here; Coleman petrol air gas plants, Quirk's "Light of Australia" air gas machines; Sunbeam electric lighting plants and Delaygue refrigerators are leading lines which Mr. Sands handles. All lamp repairs are undertaken, as well as the conversion of old lamps to the "Aladdin."

American Innovations.

J. Wiss & Sons Co., of Newark, N.J., U.S.A., have lately added to their list grass shears designed to supplant sheep shears as now commonly used for clipping grass along the edges of flower beds, lawns and walks. The blades of these shears are made of finely tempered cutlery steel, and are adjusted to cut clean and easily along their whole length in the manner of good scissors. Adjustment is obtained by a substantial screw having a large nut-like head, the loosening of which enables the blades to be re-sharpened without difficulty. But it is in the common sense of the design of the handles as compared with the difficult grip of sheep shears, that professional and amateur gardeners alike will be chiefly interested. As shown in the illustration, the handles are made to fit into the hand comfortably and naturally; at the same time the rests for thumb and first finger allow the shears to be held lightly and used without strain. The handles are made of anti-



rust gun metal, are beautifully finished, and the blades are brightly polished.

Mr. Edward G. Vaughan, of 352 Kent-street, Sydney, representing John H. Graham & Co., New York, is showing samples of these grass shears.

Incidentally, Mr. Vaughan is also showing grass shears of very similar design to the Wiss, though less expensive. This line, styled the "Handy" grass shears, comes from the works of Seymour Smith & Son Inc., Oakville, Conn., U.S.A. They are well made, will stand up to the work, and are offered in three different grades. The popular model, No. 117, has Japanned malleable iron handles, hardened and tempered hollow-ground steel blades, and is fitted with spring catch. They are put up half a dozen in a box, and shipped in cartons holding six dozen shears.

Other new lines being introduced by Mr. Vaughan are three "Androck" products, from The Washburn Co., Worcester, Mass., U.S.A. The "Aunt Mary's" patent pie tin is made with a deep trough to catch fruit juices while baking, otherwise, to prevent the juice overflowing into the oven or run back under the pie crust and make the latter soggy. These are put up in one dozen tins in an attractive display box. The "Androck" dough blender is a simple but rather ingenious device to take the place of knives or fingers for working dough for pastry. Attached to a good, strong, comfortably shaped handle at each end are six blades made from music wire, and bent to fit the bowl. It is claimed to ensure more flaky pastry with less trouble than is possible with other means. It is also commended for being easily cleaned. The third novelty is a colander-strainer, consisting of a fine wire gauze bowl which fits into a galvanised wire frame, with bottom rest and two handles. The advantages of this combination over the popular type of perforated tin colander are many. Chief among these is that it serves for draining vegetables more thoroughly and more rapidly, also for washing fruits, rice, macaroni, and other foods, while it can likewise be used for steaming fruits, vegetables, etc.

From the same manufacturers are new ranges of "Snowcap" kitchenware, including full lines of



strainers in sizes for all culinary purposes, potato mashers, spoons, forks, etc., and an innovation in the form of "Snowcap" household brushware produced on the same lines as their kitchen utensils, all strongly made and nicely finished with enamelled blue handles and white enamel caps. A feature is being made of supplying attractive display stands holding sixteen different articles, any or all of which may be replaced as the goods are sold. In America these have proved effective in increasing sales, women readily choosing the articles required. The stands are supplied free with orders.

Farewell Presentation.

At the close of the February meeting the Brisbane Merchants' Association said farewell to their president (Mr. J. D. Bell) prior to his leaving on an extended business trip embracing England, the Continent and America. Several members bore testimony to the esteem in which Mr. Bell is held by the business community of Brisbane, and extending beyond the State, and the valuable services he had rendered to the association for a number of years. On behalf of the members, the vice-president (Mr. F. Lloyd) presented him with a handsome wardrobe trunk and attache case, with a gold wrist watch for Mrs. Bell, at the same time wishing him success on his mission.

Mr. Bell, in responding, traced from its inception the work of the association, which he claimed had no counterpart in any other part of the world. It was a body that co-ordinated the work of important sections of business that would otherwise be formed into separate groups. Covering groceries, hardware, paper and stationery, wines and spirits, drugs and chemicals and jewellery, the association met together once a month to discuss general aspects and problems of business, and to knit the bonds of business friendships closer together. The association was successfully carrying through a policy of encouraging and giving practical support to Queensland and Australian industries; recognising from the economic as well as the patriotic point of view, that it was its duty. It was endeavouring to create a better moral tone in business, and by the adoption of a code of ethics that would exert an influence for good in other quarters, and make them realise that upon them rested a responsibility to customers, employees and suppliers, and the public at large.

A qualified accountant, Mr. Bell, joined James Campbell & Sons Ltd. as correspondence clerk in 1895. For many years he has been a director of the company.

Make the Advertising Pay

A Page of Hints and Helpful Criticism

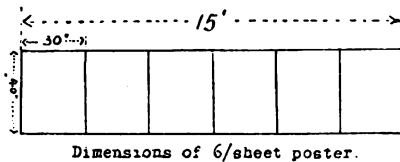
Send Us Your Ads ∴ Let Us Solve Your Problems

A Few Hints About Posters.

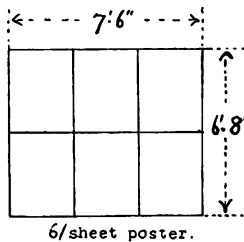
In the limited space at our disposal it would be impracticable to deal adequately with so wide a subject as posters, about which whole volumes have been written from time to time, but we shall endeavour to give a few hints of

(40 in.) deep; or it may be 7 ft. 6 in. wide (i.e., 30 ft. x 3) by 6 ft. 8 in. (40 in. x 2) deep; or it may be 6 ft. 8 in. wide x 7 ft. 6 in. deep.

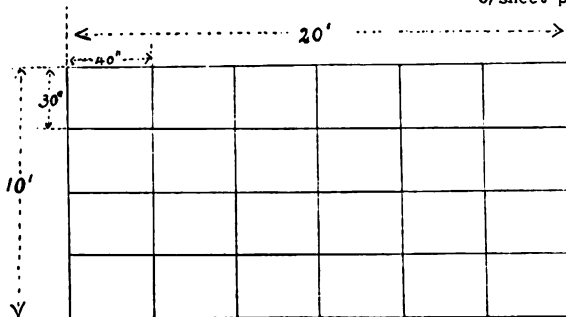
An 8-sheet poster is generally used 6 ft. 8 in. wide x 10 ft. deep; and a 24-sheet poster 20 ft. wide by 10 ft. deep. Of course, there



Dimensions of 6/sheet poster.



6/sheet poster.



Dimensions of 24/sheet poster.

the more or less elementary points that are likely to crop up when posters are being discussed.

Posters are generally reckoned in sheets—1-sheet, 8-sheet, 24-sheet posters, etc. By a "sheet" usually is meant a quad-crown sheet, measuring 30 in. x 40 in.; if any other size is referred to it is usually specified by name as, for instance, "double-royal," which measures 25 in. x 40 in.

The sheets may be placed either horizontally or vertically as desired by the advertiser. Thus a 6-sheet poster may measure 15 ft. wide (i.e., 30 in. x 6) by 3 ft. 4 in.,

are other proportions; it is simply a matter of what arrangements are made between the advertiser and the hoarding proprietors, and with the printer.

The price of space varies according to the size of contract, but it runs about 1/- per sheet per month for small contracts, diminishing for the larger ones. Rates are higher for posters of 16-sheets and over, as apparently the hoarding owners place more value on a large area of space.

A celebrated cookery book, in giving directions how to "jug" hare, said: "First catch your

hare." And so, in designing a poster, first catch your idea! Without one it is impossible to proceed. And having duly caught it, the next thing to do is to have it drawn in such a way as to make it strikingly noticeable—aggressively so, if need be, but never vulgar nor offensive.

Strange as it may seem, the truly balanced type of poster is seldom strong; it lacks the attractiveness that is so all important. There are plenty on the hoardings, but they don't shout out where they are, and so they fail to justify their creation—let alone the costly space they occupy.

However, it is not necessary for the readers of these columns to worry too much about "arrangement," or "composition," as design is variously called. Leave it to a competent artist or advertising man to make a rough sketch of what he would suggest, and see to it that the idea back of the poster is allowed to talk, shout, scream, its message with a singleness of purpose that will leave no room for doubt as to what the message is.

Don't overcrowd the poster with wording—let that be short, succinct, and emphatic.

Publicity.

(American Paper.)

Mary had a little lamb,
You do not look surprised;
Of course you don't for Mary has
Been widely advertised.

And something you may learn
from this,

If you are not a clam,
You can be just as widely known
As Mary and her lamb.

Your name can be a household
word,

And you be known so well,
That folks will confidently buy
The things you have to sell.

And when you once have got your-
self

Into the cheering rays
Of the sunlight of publicity,
You bet your life it pays.

News from Abroad

Indian Trade Mission.

With a view to the development of foreign markets for Indian goods, the Indian Government has decided to send a small trade commission to various parts of the world, for the purpose of surveying conditions and to make recommendations. Egypt, Java and South Africa are among the countries to be visited, but not Australia or New Zealand.

Molybdenite in Canada.

An important deposit of molybdenite at Lake Malartio, in Northern Quebec, came under practical notice recently and a reduction plant was to be erected before the setting in of the present winter. The 1926 output of molybdenite in the form of molybdenum concentrates was only 25,168 lb., but the growing demand for tough alloy steels is causing attention to be paid to several Canadian deposits.

Big Church Bell.

Cablegrams from London state that the casting of the largest bell ever made in England, and the fourth largest in existence, was celebrated at Croydon on March 3 by 2300 bell ringers from all parts of the country. The bell, with others, has been made for a carillon in the Riverside church at New York. Its note is two whole tones lower than any bell hitherto tuned in Great Britain. The weight of the bell is 18½ tons.

Steel Merger in Canada.

The formation of a merger of the Canadian steel manufacturing and coal mining companies was reported from Toronto early in February. Sir Herbert Holt, president of the Royal Bank (who is already prominent in the direction of about fifty Canadian companies), is stated to be the chief organiser of this gigantic new amalgamation. The companies interested have aggregate assets valued at £30,000,000.

New Type of Engine for Trucks.

A new motor has been designed by the Italian company Soc. An. Italiana Motori Bagnuto, of Turin, and manufactured by the Officina Meccanico Michele Ansaldo, also of Turin. This motor is also for trucks and instead of using gasoline it uses naphtha. It has the outward appearance of an ordinary gasoline engine except that it functions without carburettor or magneto, without spark plugs and without compression.

Tests have been made with this motor mounted on a truck chassis and driven from Turin to Paris. For observation purposes, an engineer from the office of Liquid Combustibles of the Ministry of Commerce and Industry of France was taken along. The 760 kilometers were covered in 33 hours, averaging 23 kilometers an hour; 234 kilograms of naphtha were used and about 20 kilograms of lubricating oil, with an average cost of lira 0.31 per kilometer (the value of the lira is about 2.61d.).

Sheep Dips in South Africa.

News of a recent business agreement which will result in substantial reductions in the price of sheep and cattle dips, disinfectants and insecticide, will be heartily welcomed by the farming community of this country. Sir Richard Cooper, chairman of the British chemical manufacturing firm of Cooper,

McDougall and Robertson, has been on a business visit to South Africa with the object of bringing down the cost of his firm's products to local consumers. As a result, he has arranged for the immediate registration of a South African company to carry on the work of the overseas firm in this country. The local company will be known as "Cooper, McDougall and Robertson (S.A. Proprietary) Ltd." "Cooper's" and their associated companies have for many years been the principal manufacturers of sheep dips and cattle dips sold in South Africa, and up to the present their products have been imported from England. The company has now decided to take a forward step and to identify itself with the economic progress of South African industry, and arrangements have been made with the African Explosives and Industries Ltd. whereby that company will manufacture, at its works at Somerset West, Cape Town, and Umbogintwini (Natal) all the dips, disinfectants, and insecticides required for the South African market.—"Industrial and Commercial South Africa."

Iron Reserves in Sweden.

It is reported in "Deutsche Bergwerks Zeit," that a special Commission of the Swedish Parliament has just presented a report with recommendations as to new legislation regarding the exploitation of Swedish mineral deposits. It is understood that, although the report does not suggest dispossessing the owners of existing mineral ore deposits of their rights, or, at any rate, without compensation, it recommends that all "free" ore occurrences to which titles have not been secured be regarded as State property.

It is stated that at present the owner of the soil under which ore minerals are found is entitled by law to 50 per cent. of their value, and, although the effect of the adoption of the report recommendation is not very clearly expressed, it obviously contemplates a limitation of this right, at any rate, in the case of future discoveries.

The commission has estimated the known iron ore reserves of Sweden at 1,500,000,000 tons, of which 1,200,000,000 tons are in Lapland and the remainder in Sweden itself. It is estimated that something like a further 45,000,000 tons of iron ore will be proved in Sweden, and also some further quantities in Lapland, which so far has been but little explored. The presence of round 2,000,000,000 tons of iron ore seems to ensure a long life for the Swedish iron ore industry, and a source of supply for countries which import this high-grade ore. At the same time, says the above journal, it would be well not to disregard the competitive efforts of other lands possessing high-grade iron ore, or the possibilities of consumers of iron ores finding means to grade up low-grade material at hand and thus becoming independent of the Swedish ore.

Electrical Prospecting for Minerals.

Announcement of a new method of electrical prospecting for hidden ore deposits has been made by Dr. E. S. Bieler, of the Department of Physics, McGill University, Montreal. Dr. Bieler and an assistant tested the new plan during the past summer in the Rouyn area in North-Western Quebec, and the results are said to have been far superior to those obtained by any other method yet employed. The new method is a modification of the electrical system, but is said to be unique in some particulars. Dr. Bieler has stated that his experiments represent the first purely Canadian attempt at using a new method in the exploration of Canadian mineral areas.

Commonwealth Tariff Decisions

The following decisions of more or less interest to the hardware trade have been made during February. By way of explanation it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (6/2/28, and so on) the date on or from which the new decision took or takes effect:—

Electrical Appliances and Materials—

- 28/75 The reference to Insulators, 55,000 volts, and 66,000 volts, for transmission lines, in Consolidated By-laws, page 118, and in By-law No. 74, and T.D. 26/842, are to be cancelled, but any such Insulators as were in direct transit to Australia on 6th February, 1928, may be admitted under Tariff Item 415a (2). (By-law No. 795.) .. 6/2/28

Iron and Steel—

- 28/76 By-law No. 172 and T.D. 27/287, having reference to Steel Billets over 15 in. in diameter for use in the manufacture of Sugar Mill Rollers and Tail Bars for such Rollers, under security, are to be cancelled, but any such Billets as were in direct transit to Australia on 6th February, 1928, may be admitted, under security, under Tariff Item 404. (By-law No. 792.) .. 6/2/28

Iron and Steel—

- 28/77 The reference to Steel Blooms or Billets over 15 inches in diameter for use in the manufacture of Engine and Propeller Shafting for Dredges, under security, in Consolidated By-laws, page 110, and in By-law No. 71, and T.D. 25/388, are to be cancelled, but any such Blooms or Billets as were in direct transit to Australia on 6th February, 1928, may be admitted, under security, under Tariff Item 404. (By-law No. 793.) .. 6/2/28

Iron and Steel—

- 28/78 The reference to Steel Ingots over 33 inches in diameter for use in the manufacture of Steel Blooms or Billets over 15 inches in diameter, under security, in Consolidated By-laws, page 82, and in By-law No. 71, and T.D. 25/787, are to be cancelled, but any such Ingots as were in direct transit to Australia on 6th February, 1928, may be admitted, under security, under Tariff Item 404. (By-law No. 794.) .. 6/2/28

Tanks—

- 28/99 Steel, Glass-lined, capable for use as either pasteurisers or dairy coolers. 164 6/2/28
Note.—These Tanks are sometimes described as Pasteurisers. Attention is directed to the decision relating to Pasteuriser, cooler and ripener, etc., in "Guide," page 215.

Electrical Appliances and Materials—

- 28/105 T.D. 27/235 and By-law No. 141, having reference to Elements, Strip and Ring, Electric Heating, etc., for use in the manufacture of all kinds of electrical apparatus and appliances, are to be cancelled, but any such Elements as were in direct transit to Australia on 18th February, 1928, may be admitted under Tariff Item 404. (By-law No. 812.) .. 13/2/28

Felt—

- 28/106 Capable of being used as either roofing felt or flooring felt. 334(1) 13/2/28
Note.—T.D. 24/21 is to be cancelled.

Locks—

- 28/110 Single Lever Mortise, whether imported as part of a Lock Set or separately. 208(c) 9/2/28
(Parts Order No. 17.) (1927 Tariff Proposals.)

Machinery, Machines, etc.—

- 28/117 The reference to Pressing Machines, Clothes, of the type which forces hot dry steam into the garments during the actual operation of pressing, in Consolidated By-laws, page 30, and in By-law No. 25, and T.D. 26/199, are to be cancelled, but any such Pressing Machines as were in direct transit to Australia on 18th February, 1928, may be admitted under Tariff Item 1784. (By-law No. 802.) .. 18/2/28

Machinery, Machines, etc.—

- 28/119 Sirens, Electric, Motor Driven. (By-law No. 804.) 174 20/9/27

Wrenches—

- 28/127 "Alligator" jawed, non-adjustable, single or double ended, having one or both jaws serrated. 208(a) 13/2/28

Cordage, Threads and Twines—

- 28/134 Cable, metal, including cable of metal with core of other material, having a circumference of 4 inches and over, for cable-tramway haulage, under security. (By-law No. 822.) 388(a) 29/9/27

Dampcourses—

- 28/135 Composed of materials other than felt and paper. (Substitute Notice No. 12.) 334(1) 16/2/28

Machinery, Machines, etc.—

- 28/149 Magneto Parts—
Couplings, Automatic Advance, whether imported with magnetos or separately. 404 5/9/27

Oils—

- 28/153 The reference "Other Petroleum Oils in a less refined state," etc., in "Guide," page 254, is to be cancelled. ..

Paints, Colours, Varnishes, etc.—

- 28/154 T.D. 27/281 and Substitute Notice No. 4, having reference to Varnish Gums prepared for varnish making, etc., and the reference to Gums, Varnish, etc., in "Guide," page 146, are to be cancelled. (Substitute Notice No. 11.) .. 20/8/27

Machinery, Machines, etc.—

- 28/167 Motors, Electric, Power Factor Correction, of the "No Lag" type. (By-law No. 844.) 174 3/2/27

Rakes—

- 28/175 Garden Rakes (Tariff) 303(a) 27/2/28
Note.—The reference to Garden Rakes and to Rakes, wood (Tariff), in "Guide," page 318, are to be cancelled.

Scoops—

- 28/176 The reference to Grain Shovels, not wholly of wood, etc., in "Guide," page 332, is to be cancelled, and the reference to Shovels, Grain, etc., in "Guide," page 340, is to be amended by deleting therefrom the words "of wood." ..

Melbourne Hardware Picnic.

That hardy annual, the picnic arranged by the Victorian Hardware Club, was held at Sorrento on March 3. Fine weather and a calm sea, combined with good music and an attractive sports programme, gave the voyagers a delightful day. A large crowd made the trip, although a few timid folk were kept at home by the fear of rain. Mr. J. Dempster, the secretary, is a past master in handling bay picnics, and it is scarcely necessary to say that the entire proceedings went off without a hitch.

Interstate General News

N.S.W. Master Builders.

The following office-bearers have been appointed by the Master Builders' Association:—President, Mr. F. W. Lemcke; senior vice-president, Mr. W. A. Grant; junior vice-president, Mr. F. T. Eastman; treasurer, Mr. A. J. Loveridge; trustee, Mr. J. Wall.

New Opening in Wholesale Hardware.

Mr. Harry Boyle has commenced business as a wholesale hardware merchant and indentor in Bradbury House, 55 York-street, Sydney. Born and trained in the Old Country, Mr. Boyle has had forty years' experience in the hardware trade. In 1901 he was employed in Birmingham, and while there he accepted an appointment with Hill, Magill Ltd., of Sydney. After fifteen years, during which time he represented the firm on the northern rivers and the northern tablelands, he transferred to John Keep & Sons Ltd. Resigning after four years on the southern line, he commenced business on his own account at Dunoon, on the Richmond River. In 1923 he sold out and rejoined Keeps as indent and sales manager. Recently he again withdrew, and, as stated above, has opened in Sydney as a wholesale dealer with a varied stock of hardware lines and sporting goods—Australian, British, American and Continental.

Building in New Zealand.

According to official figures the total value of all building operations in cities, boroughs, and town districts throughout New Zealand for 1926-27 was £11,019,389. This constitutes a record for the Dominion. Appended are some of the details:—

Wellington City	£2,020,833
Auckland City	1,567,059
Christchurch City	846,007
Dunedin City	811,007
Lower Hutt Borough	442,868
Palmerston North Borough	320,760
Wanganui City	296,695
New Plymouth Borough	182,694
Petone Borough	166,011
Napier Borough	160,678
Gisborne Borough	117,955
Hastings Borough	108,503

Lower Hutt is suburban to Wellington, the capital.

News From Queensland.

Mr. W. A. Jolly, C.M.G., was re-elected mayor of the Greater Brisbane City Council on February 18 for a further period of three years.

Extensive floods are reported from many districts in Queensland during the month of February. In some areas they were the highest recorded for thirty years. A number of drowning fatalities occurred, and there has been heavy losses in stock. The farmers, particularly in the banana areas, have suffered severely from landslides, and certain railway lines have also been interrupted.

The fifty-first annual report of the Ipswich Gas Co. Ltd. shows a profit of £2514 for the year, after making full allowance for travelling and working expenses. It has been decided to declare a dividend of 3 per cent.

At the annual meeting of the Brisbane Master Painters' Association the following office-bearers were elected for the ensuing year:—President, J. McColl; vice-presidents, W. McNiven and A. W. Maile; treasurer, P. J. Conway; hon. secretary, P. W. Costin; trustees, T. Baker and J. Charlton; committee, T. Baker, J. Charlton, R. H. Brown, T. Hildon, Turner, P. J. Conway, W. G. Lewis, S. McCaskie, G. C. Oxlade.

Further tests have been carried out of oil from the bore at Roma with very satisfactory results. Henderson Bros., of Dulacca, purchased 400 gallons for use in their tractors. The tests were severe, as the tractors were being used in ploughing and excavation work. The oil supplied proved quite equal to power kerosene.

Trade of the Commonwealth.

The Quarterly Summary of Australian Statistics (December, 1927) gives the value of the principal articles of merchandise imported during the December quarter, 1926 and 1927, and during the first six months of the financial years 1926-27 and 1927-28. Following are the lines of direct interest to our readers:—

	December 1926	Quarter. 1927	First Six Months. 1926-27	1927-28
	£	£	£	£
Cordage and Twines (excluding Metal Cordage)	68,037	54,219	156,357	177,680
Fats and Waxes, etc.	70,105	71,774	188,981	139,048
Oils—				
Kerosene	307,718	225,770	608,358	463,784
Linseed	18,591	19,592	40,283	40,965
Lubricating (Min- eral)	265,007	248,426	541,884	523,552
Petroleum Spirit	1,661,263	1,556,746	3,097,335	3,069,938
Turpentine	54,480	38,004	115,734	97,492
Other	352,084	295,293	671,738	604,490
Electrical Machin- ery and Ap- pliances—				
Batteries and Ac- cumulators	225,831	165,064	385,277	420,632
Cable and Wire, covered	504,971	518,932	902,084	915,165
Dynamo Electric Machines	291,550	190,017	558,689	518,012
Lamps, filament, for lighting and heating	156,458	106,892	281,840	266,430
Telegraph Instru- ments, etc., Telephones, and Telephone Switch- boards, etc.	206,153	279,119	396,921	461,612
Other	603,470	555,176	1,264,546	1,255,682
Implements & Machin- ery (Agricultural, Horticultural, etc.)	246,377	225,584	428,318	506,745
Metal-working Machin- ery	148,284	117,862	317,971	253,679
Motive-power Machin- ery (except Elec- tric)	695,443	581,386	1,263,699	1,363,798
Printing Machinery	102,672	119,637	229,412	229,715
Sewing Machines	162,207	118,198	308,232	279,080
Yarn-making and Textile-making Machinery	134,589	153,514	256,763	270,908
Other Machines and Machinery	884,427	835,785	1,817,413	1,892,690
Alloys	115,068	81,637	201,831	154,850
Bolts and Nuts, Rivets and Washers	76,765	68,006	158,238	136,932

Iron and Steel—				
Bars, Rods, Hoop, Ingots etc.	198,678	297,446	429,012	696,205
Beams, Channels, Girders, Joists, etc.	42,428	123,684	77,384	316,901
Pig and Scrap	14,283	14,653	35,622	37,783
Pipes and Tubes	369,485	357,647	755,401	740,112
Plate and Sheet—				
Galvanised—Cor-				
gated	364,427	572,304	782,788	1,197,627
Galvanised—Flat	59,315	172,042	211,590	387,204
Plain	115,572	267,614	274,307	759,230
Tinned	320,606	374,100	520,240	699,007
Rails, Fishplates, Fishbolts, etc.	8,903	38,243	21,844	120,385
Wire	154,816	119,314	346,209	243,316
Lamps & Lampware	146,766	108,821	275,471	209,496
Plated Ware and Cutlery	251,850	272,067	534,629	499,485
Tools of Trade not being machines	313,947	295,461	658,359	570,097
Other Metals and Metal Manufactures	1,118,539	1,131,829	2,358,641	2,298,868
Cement (Portland)	17,090	18,910	32,663	34,509
Crockery and other Household Ware	201,406	245,942	379,491	464,050
Glass and Glassware	342,226	373,231	692,056	684,321
Other Earthenware, Cements, China and Stoneware	114,218	89,456	205,938	201,072
Brushware—				
Vacuum Cleaners (household)	65,716	52,725	114,830	112,732
Other	84,755	75,200	192,251	156,060
Grand Total	£42,462,192	£39,123,115	£83,985,182	£80,887,890

News From Canterbury, N.Z.

Figures available for the last year show a decrease of nearly 30 per cent. on the value of the building work authorised by the Christchurch City Council in 1926. The trade has been almost at a standstill in the two seaside boroughs of Sumner and New Brighton. Everywhere the activity in recent years in housebuilding had been so sustained that the supply had overtaken the demand. There are, however, four or five substantial jobs recently undertaken in the city area. These include new premises for the New Zealand Loan and Mercantile Agency Co. Ltd. (£14,000), offices for the National Insurance Co. Ltd. (£15,000), new building for the Dunlop Rubber Co. of Australasia Ltd. (£10,500), and the rebuilding of Fuller's Opera House (£30,000). Outside the inner area of the Central Ward are a new Roman Catholic school in Ferry-road, additions to the Girls' High School, and a new grandstand at Lancaster Park. A new Bishopscourt has been built, and the Anglican St. George's Hospital has just been opened. The new Municipal Concert Chamber is practically completed, while a new wing has been added to the Lewisham Hospital (Roman Catholic), and important work has been undertaken on the new railway workshops at Addington.

The value of the buildings authorised by the council in 1927 was only £654,817, as compared with £915,584 in 1926. The Royal Exchange buildings in Cathedral Square have just been purchased by a syndicate for approximately £110,000, to be utilised for a portion of what promises to be one of the finest picture theatres south of the line. The present building will be entirely remodelled, the shop fronts modernised, and innovations in the lighting of the interior introduced. This, however, is only a part of the theatre building activities in Christchurch. Sir Benjamin Fuller has announced that the new theatre for Picture Supplies Ltd., in Manchester-street, near the clock tower, is to be put in hand in November next. Though primarily intended as a cinema, this theatre will have sufficient stage accommodation for the presentation of dramatic and operatic works.

There is a general improvement of the trade in the Dominion as shown by the monthly figures of the Customs Department. The exports last month (January) approached the £8,000,000 mark, and were well over double the value of imports. The actual value of the exports was £7,606,385, which establishes a record for a single month. The big appreciation in the price of wool as compared with last year accounts for a little over one million of the increase of last month. Also the large increase in the shipments of dairy produce, especially butter and the frozen meat trade, have contributed to the improved position. The value of the exports last month was up by £2,401,245 compared with January, 1927, and £2,566,404 as compared with January, 1926. Apart from any increase in the quantities of exports, such as dairy produce, meat, etc., the big increase in the value of exports is largely accounted for by the increased values of exported products.

Recently at Timaru a meeting of representatives of the Borough Council, Chamber of Commerce, and Caroline Bay Association took place to arrange for better shipping facilities and improvements to Caroline Bay. During the Christmas season a profit of over £2000 had been made from the carnivals in Caroline Bay, and it was decided to add further improvements for the comfort of visitors. The mayor (Mr. G. J. Wallace), who presided, referred to the establishment of a hydro power station at Kuron, and said that Timaru would shortly be as well served with electricity as any town in the Dominion. He could see no reason why the town should not become a manufacturing centre and industries attracted to the district. With a good harbour and railway facilities, the advantages of establishing factories in Timaru should be pointed out to firms desirous of starting new industries.

Telephone Users in Various Countries.

A table showing the comparative telephone densities of the principal countries of the world has been issued by the secretary of the Telephone Development Association, England. The figures indicate the number of telephones in use for every 1000 inhabitants.

U.S.A.	150
Canada	130
Denmark	95
New Zealand	94
Sweden	72
Australia	68
Norway	66
Switzerland	50
Germany	43
Great Britain	31

Streamers as Sales Boosters (American paper.)

In one hardware shop the dealer had a counter display of odds and ends. A red ribbon was stretched from many of these items to another associated article on the shelves in various parts of the store. This novelty display was designed to interest the buyer of a counter item in an associated one elsewhere in the stock. It also served as a reminder to the salesman that something else might be sold to the customer.

For instance, a stack of egg beaters on the counter carried a ribbon that extended to beating bowls on the shelf above. A display of scrub brushes bore a ribbon that extended to the pail display. And so on.

The ribbons served to attract attention, and placards made clear what it was all about.

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.
For English prices, see The Month's Cablegrams on page 81

Sydney, March 2, 1928.

The past month has shown very little activity, and in some directions it has been very quiet indeed. No conspicuous features are noted, but trade has been steady without any marked demand. The financial position is carefully observed, and no large transactions are reported. Variations in price have been made against list prices quoted for the previous month. Metals have had a very poor month, excepting indent orders for some of the larger manufacturers, but these are mostly regular periodical transactions. Galvanised corrugated and plain sheets are held in full supply, and prices are keenly competitive. No large parcels are reported as having gone into consumption. Tinplate workers have kept busy on regular manufacture. Turpentine and resin sold well interhouse, but stocks are lower than for some time past. The indent position has not shown much variation, and therefore not affected the market here. Shellac had much attention for indent, and spot stocks were in demand. Jute fabrics were quiet, occasionally responding to a local demand when speculators came on to the market. Tin showed a gradual decline, and parcels purchased were not large, the consumers desiring to buy only for requirements. The floods in the country districts have severely affected trade in the city, the many representatives from the wholesale warehouses invariably being held up on their trips. Whether the damage brought about by the floods will reflect on distributing trade at an early date is difficult to surmise, although it is felt there will be demand for builders' materials and heavy hardware, together with galvanised sheets and wire. Suburban trade has been very good, and cash trading better than for some months. Warmer weather brought demand for seasonable lines, and it is considered likely that general trade conditions will improve in the near future.

Christchurch, February 20, 1928.

Hardware business in Christchurch is still far from bright, owing principally to continued slackness in the building trade. But, speaking generally, and from the Dominion standpoint, there are grounds for satisfaction. Trade has reached a healthy state which should soon be responsible for increased purchasing of hardware necessities by the farmers and the general public, who have had to do without during the recent economic depression. During the past few weeks, Christchurch hardware merchants report doing good business in fencing materials for the coming season, particularly standards and sheep netting. The painting trade is still very slack, but next month it is expected that conditions will improve when the autumn painting begins. White lead and linseed oil are being quoted at very reduced rates; in fact, neither of these lines is a very payable proposition owing to the cutting of prices that goes on. Prices of building material remain unaltered, and ample stocks of corrugated iron, plaster board, "Fibrolite," and similar sheets are available. Ingot tin, which had been selling last month at 3/2 per lb., has now been reduced to 3/-.

Dunedin, February 17, 1928.

Notwithstanding the usual block to business caused through holiday observance, the immediate future of trade is promising, especially the building

side of it. Several important contracts are in contemplation, induced probably by the better values secured at the last wool sales, which have also led to an improvement in the inquiry for farm and station requirements. Some good sales have been reported in fencing wire and other such lines. The city improvements are also steadily proceeding, all of which are a reflection of confidence. Values in the metal market are fairly steady, little change having to be recorded. Unemployment is still rife, but the Government is entering upon several public operations which should relieve the pressure. In the oils section turpentine has advanced from 6/- to 6/6, and cornsacks to 12/4 for 46-in., and 12/10 1/2 for 48-in.

Brisbane, February 28, 1928.

February has proved a very quiet month all round in regard to the hardware trade. We have experienced a deal of wet weather over the greater part of the State, which has militated against the brightening of business. Another reason for quietness is

NEW ZEALAND PRICES.

	Duty.	Auckland. Jan. 20	C'church Feb. 20	Dunedin. Feb. 17	Wellington Jan. 30
IRON—					
ar—		£	£	£	£
English ...	Free	21	22/	22/	22/
Shoeing ...	"	23	23/	23/	23/
Steel ...	"	15/10 to 21/-	20	22/	16/ to 22
Pig ...	"	8	10/6	10/6	9/- to 10/-
Plate ...	"	21 10/	24/	25/	22/ to 24/
Hoop ...	"	24/ 35/	25/6, 37/6	32/	25/ and 35/
Sheet, Blk.	"				
to 20-g. ...	"	23 10/ 24 10/	25/6	26/	24/6 to 26/6
22 & 24 g.	"	25 10/	28/6	28/	26/6
Galv. Cor.—	2/-				
First ...	"	28	30/ Builders	30/	29/
Second ...	"	27	28/-	28/6	28/
Local ...	"	28	"	"	"
Do., Plain	Free				
24 & 26 g.	"	30/ 31/	31/ 33/	35, 37, 39	26
Pipe—Galv.	Free	45%	47 1/2% off	42 1/2%	42 1/2% off
Black	"	50%	50% off	50% off	50% off
Wire—	"				
Galvd. ...	"	15/6, 18/-	16/	16/6	17/6 to 18/6
Black ...	"	16/-	16/	16/6	"
Barbed ...	"	21, 23 10/	21/-	21/	22/ to 23/
Nails ...	2 1/4/- c.	20/6	22/6	24 to 23	22
" N.Z.	"	20/6	"	"	22
Lead—Pig	Free	32	33/-	45/	35
" Sheet	"	38 5,	38/-	45/	42 1/2
" Shot	10/	76/	75/	80/	75/
Tin—Ingot	Free	2/10	3/	3/2	3/4
" Plates	"	32/6, 48/6	40/	40/	37/6
Zinc—Sheet	"	7 1/2 d. lb.	9d. lb.	8 1/2 d.	8 1/2 d.
Quicksilver	"	"	6/6 lb	"	"
Cement—					
Imported	1/- cwt.		22/6 cask		
Local bag	"	5/8	7/-	6/	5/11
Slates ...	Free				
P. of Paris ...	"	26/-	30/-	28/-	27/
White Lead	6/- cwt.				
Best ...	"	54/	57/6	58/-	58/ to 60/
Second ...	"	53/	"	"	64
Blst. Powder	Free	1/8	1/9	1/7	1/8
Rope—	20%				
Manila, Star	"	111/	111/	111/	111/
" O. ...	"	107/	107/	107/	107/
Flax, N.Z.	"	81/ 88/	88/	88/	88/
Co nsacks ...	Free				
44-in. ...	"	"	"	12/2	13/6
46-in. ...	"	"	14/9	13/1	12/4
48-in. ...	"	14/3	15/	12/7	12/10 1/2
Woolpacks ...	"				
Full ...	Free	5/3	5/8	4/4	5/3
Oils—					
Lins'd, raw	6d.	5/-	N.Z.5/- Eng 5/3	5/6	5/8
Castor ...	Free	5/6	5/6	5/9	5/6
Colza ...	"	7/9	8/	8/-	7/4
Kerosene	"	13/9	14/9	14/6	13/9
Turpentine	"	6/6	7/-	6/6	6/6

the extensive auction sales of salvage recently offered. Large retailers bought heavily, particularly in hardware and crockery lines, at prices said to be about 25 per cent. of landed cost. Consequently merchants are finding it very difficult to dispose of fresh new lines. In order to stimulate business, keen competition is going on in the retail trade, and forced sales are the order of the day. Heavy hardware has been quiet, with prices unchanged and stocks good. Bulk lines have been on the quiet side, although fair orders have been received for carbide from country districts. Prices are steady and stocks plentiful. Shelf goods have been slow except for business encouraged through forced sales. Prices for many lines are very keen, and stocks well ahead of requirements. Builders' material and ironmongery are very slow on account of so much wet weather. Paints and oils are also very dull, and it will probably be well on into March before this trade shows any marked improvement. Oils have eased a little, otherwise prices are stationary. Fairly good orders have been handled for cement. Prices are steady, and stocks ample. Sanitary materials and accessories have been very slow, presumably due to the rainy conditions. Fencing wires and wire netting have been somewhat spasmodic, presumably due to repair work after the floods. Woolpacks are slow, but an improvement is anticipated during the coming month. Prices are steady, and stocks well forward in anticipation of the increased demand. Crockery, enamelled and aluminium wares are all on the slow side, and what sales take place are due to the keenest cut prices and large advertising campaigns.

Adelaide, March 1, 1928.

Hardware trade at this centre has shown very little activity during the past month and no improvement can be reported on the general depression from which business here has been suffering for some time. With the building trade in a bad way and very little demand from either town or country for general hardware lines there seems little prospect of any substantial improvement just at present. Fencing wires and standards have changed hands only in small lots, and about the only line which has shown any marked activity is galvanised tube, good sized parcels having been sold interhouse and to arrive. Ingot tin opened at £245 per ton and dropped steadily, although it recovered somewhat, to-day's price being £229 per ton. The opening of the duck shooting season was responsible for good clearances of cartridges, and all merchants report good business in this line. On account of the little inquiry and the fact that good stocks are held by all houses there has been very little trading among merchants.

Melbourne, March 2, 1928.

Metals and hardware lines generally have shown but slight improvement during February. Heavy goods have not been in request to any extent, except for public works. An exception might be made in the case of fencing materials, which moved in moderate parcels. Wire netting, size 36 x 1½ x 17, sold in lots of a few miles at £36/5/-, and 42 x 1½ x 27, at £41—there was scarcely any demand for other sizes. Fencing wire went better. In 5-ton handlings No. 8 galvanised brought £16/15/, and No. 9 £17 net, while barbed wire of 12, 13 and 14 gauge was sold at £22, £23 and £23/10/-, respectively. Iron pipes were in fair demand, 10,000 feet of ¾ in., being

an example of several sales, less 56½ per cent. Black pipes were at 65 per cent. off for 1½ and 1½ in. Building materials still show but indifferent demand, except for G.C. iron, of which a few good parcels were cleared. Imported brands sold in from 10 to 15 case lots, the price for 26 gauge being £24/5/-. Cement is still produced in excess of demand, and the mills are eager for business, which seems to be mostly coming from public departments. Several shipments of K.W. plaster FFF. changed hands at 25/-. Other prices noted were Nicholson's files, 25 doz., at 50 per cent. off; rabbit traps, "Victor" and Griffiths makes, at 22/-; 10-cwt. lots solder, 50-50 at 1/4½; bright shafting, 3 in., at £23. Ingot tin, 2 tons of which found buyers, ruled at £250. Prices of jute goods were unchanged during the month, but authorities seem confident that figures will firm shortly. Oils and paints, selling here and there, in moderate quantities, showed no variation. Swedish carbide was accepted in several places at £32/10/-.

The Month's Cablegrams

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date	Copper Electrolytic Per Ton		Tin Standard Per Ton		Silver Standard Per Ounce	
	1927	1928	1927	1928	1927	1928
Jan 30	£ 62-62½	£ 62-67	£ s. d. 292 2 6	£ s. d. 249 17 6	d. 27½	d. 26½
Feb 4	60½-60½	66½-66½	289 12 6	245 6 3	27½	26½
" 9	60½-61	66½-67	308 2 6	238 1 3	26½	26½
" 16	61½-61½	66½-67	305 7 6	229 17 6	26½	26½
" 23	61½-63½	65½-66½	308 12 6	227 18 9	26½	26½
" 29	63½-63½	66-66½	305 2 6	220 2 6	26½	26½
Mar 4	63-63½	60½-60½	316 7 6	232 6 3	26	26½

The stocks of tin in the United Kingdom at the end of February were 17,129 tons; the deliveries for the month, 2,581 tons; the quantity on spot, 822 tons; and the quantity afloat, 1840 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—February 4, £21 2/6; February 9, £20/15/-; February 16, £20/2/6; February 23, £20; February 29, £19/12/6; March 4, £19/15/-.

For the month of January the imports of lead into Great Britain were 18,485 tons, including 6365 tons from Australia. The exports for the month were 1473 tons.

Spelter.—The spot quotation for spelter, as cabled from London, have run as follows:—February 4, £25/17/6; February 9, £25/17/6; February 16, £25 12/6; February 23, £25; February 29, £25/2/6; March 4, £25.

Feb.	Casks	Date	Casks Offered	Casks Sold	Mutton Med., per cwt.	Beef Med., per cwt.
Imports	670	Feb. 1	Nil			
Deliveries	1271	" 8	619	292	36/-	36/-
Stock	2332	" 15	466	149	36/-	36/-
		" 22	888	454	35/6	35/6
		" 29	Nil			

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney Mar. 2	Melbourne Mar. 2	Adelaide Mar. 1	Brisbane Feb. 28		Duty	Sydney Mar. 2	Melbourne Mar. 2	Adelaide Mar. 1	Brisbane Feb. 21
Pig Iron ...	2.1. 40/	£	£	£	£	Zinc—		£	£	£	£
British ...		...	7 5/	7 0/	...	Sheet 9 to 18g	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.
Swedish ...		...	7 5/	...	...	(7 x 3 & 8 x 3)		4/9	7	...	5/6
Lithgow ...		7 10/	7 5/	...	...	Perforated	35%, 45%	32	...	54/	...
Newcastle ...		7 10/	7 5/	7 10/	...	Spelter	10%, 20%	30 1/10 to 37	41 1/2 to 42	...	40/
Bar and Rod	44/ 12 1/2	23 basis	English 21	21	22. 10 basis	" Elec.	25%, 40%	1/9	1/5	...	1/9
Australian ...		...	18/6	17 10/	...	Bolts & Nuts—		3/ 1/2	3/ 1/2	...	...
Mild Steel	44/ 12 1/2	19 10/ basis	19/ basis	18 10	18	Cuphead	35%, 50%	75/ 59/	63/ 47/ 41/	...	26/3 to 73/
Bar ...		19 10/	18	19	19	"		76/ 57/	61/ 46/ 89/	...	...
Angles ...		21	18	20 10	20	"		70/ 54/	56/ 41/ 37/	...	...
Tees ...						"		65/ 49/	52/ 39/ 35/	...	...
Hoops ...	F., 10%	20 basis	19 basis	19/6	21/ basis	" 6 1/2 to 9"		61/ 47/	19/ 38/ 34/	...	...
Black ...		29.9 basis	35	38/6	31 10/	" 9 1/2 to 12"		59/ 45/	47/ 36/ 32/	...	...
Galv. Corr. 24g.	20/ 60/	26	24 10/	25	27 5/	Tanks, 400-gal.	Free	6 10/	5 10/	...	5 7 6
Orb 26 g		27 10/	26	26/10	28 15/	200-gal.		3 10/	2 15/	...	3 10 0
"		...	...	...	...	Tubing—	F., 10%			...	...
Phoenix Cr.		26	25	27 5/	28 15/	Black, up to 3"		55 off list	55% off	58% off	List 45% off
Galv. Plain 24g.	20/ 60/ 30/	28	26 5/	28	29	" 3 1/2 & up	27 1/2	50	60% off	48% off	5% on
Queen's Hd.		26 5/	25 15/	27 15	28 15	Galv. up to 3"	27 1/2	40	55% off	48% off	35% off
Phoenix Cr.		...	...	...	...	" 3 1/2 & up	27 1/2	...	37 1/2 off	37% off	5% on
Fleur-de-lis		...	...	...	...	Steam, up to 3"	27 1/2	...	5% off	20 off	25% off
Other		...	...	...	...	Wr'tght boil.		...	10% on	...	15% on
Sheet	F., 125/	26 basis	25 basis	25/15	26	Explosives	F., 5%	1/-	10d.	1/-	5/
Black		B26, C34 5'	26 10/	...	19	Hall's C.C.	10%	10d.	10d.	11 1/2	1/1
Baldwins		...	...	...	...	Curtis's		10d.	10d.	...	1/1
Plate	F., 120/	17/- basis	15 basis	15	15 10/	Chilworth's	15%, 25%	3/6, 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/
Steel		19/6	21	19	20/-	Sporting		10/	8/ to 8/6	8/3 to 8/6	5/
Girder	F., 120/	18 5/	18 5/	...	...	Diam. S'less		8/6	7/ to 7/6	6/9 to 7/6	75/
Fencing Wire		19 5/	19 5/	...	...	Amberite	F. 5%	72/6	74/6	74/6	79/6
American		15 12/6	15	15 10/	15/10	Blast'g Gel.		65/	66/	66/	71/-
Austra'n 8 Bl.		16 12/6	16	17 10/	18	Gel. Dyna.		56/ to 60/	56/ to 59/3	54/6 to 58/6	62/ to 66/
Galv. 10		17 17/6	17	17 10/	18	Dynamite		51/ to 57	51/ to 57/	48/6 to 51/6	...
" 8		18 17/6	18	18	19	Detonators	15%, 25%	55/	55/ to 60/	60/ to 85/	58/ to 102/
" 12		20 2/6	19 10/	20	20	Shot—Chilled	5/ 6/	63/6	61	75/	90/
Barbed Wire,	68/ 180/	24	...	...	25 10/	Australian		61/	56	...	...
Amern. 12-g.		25 10/	...	...	26 10/	Cyanide Pot.	Free	1/4	1/6	...	1/6
14-g.		24 10/	23 10/	24	25 10/	Quicksilver	Free	7/6	5/	5/8	9/
Austn. 12-g.		24 10/	24 10/	25	26 10/	Sash Weights	35%, 45%	15/	18/	16/6	18/6
13-g.		26	25 0/	26 10/	26 10/	Sheep Shears	F. 10%	62/6	65/	60/	60
14-g.		...	...	...	...	Cement—Impt'd	20%, 30%	25/ cask	21/	21/-	21/ cask
Wire Netting	F., 200/ per. ton	36 15/	28	...	...	Aust. (bags)	1/6, 2/c	37/6 K.W.	85/	47/6	50/ cask
36 x 1 1/2 x 17		29	35	...	...	Plaster, Imp.		Pixie 35/-	8/	9/3	18/ bag
36 x 1 1/2 x 18		49 15/	...	...	...	Slates (20 x 10)	30%, 40%	...	...	...	...
42 x 1 1/2 x 17		41	33	...	...	White Lead	8/ 10/ or	63/	62/	64/-	66/
42 x 1 1/2 x 18		34	33 10	...	...	Imported	25%, 30%	57/	56/	60/	62/
36 x 1 1/2 x 17		35	...	...	...	Australian		...	70 to 100	...	72/ to 80/
36 x 1 1/2 x 18		28	...	...	...	Zinc White	20%, 30%	...	...	...	Colonial 56.
36 x 2 x 18		22 10/	23	...	...	Oils—		...	...	...	...
36 x 2 x 19		20	20 15/	...	...	Linseed (raw)	9d., 1/	...	...	...	...
Nails—						Imported		R5/3	5/6	...	5/3
Horseshoe	12/ 15/	Less 10%	to 1/1b.	1/ less 10%	List Price	Australian	6d., 8d.	C4/8 D5/8	C., 4/	Drs., 5/9	4/10
Austn.		...	...	...	...	Colza		...	...	Drs., 4/6	...
Wire	5/6, 8/	28/6 basis	18/ to 20/	24/6 to 35/	29/- basis	Burning	9d., 1/	...	6/-	...	...
Austn.	or 25%, 35%	65/- cwt.	65/cwt., 9/6	9/-	11/	Castor	2s., 2/6	C 6/6	6/3	6/9	7/9
Roofing—	5/6, 8/	...	...	...	44/	China	6d., 8d.	...	8/6 to 10/	...	10/
Even-den		...	...	...	...	Cotton seed	Free	13/	13/6 to 14/6	13/	13/6
Lead-head		...	...	...	...	Kero.—C.O.R		13/	13/6 to 14/6	13/	13/6
Block Tin	Free	239	250	265	3/	Laurel		13/	13/6 to 14/6	13/	13/6
Tin Plates,	F., 10%	112's 60/-	62/6	112's 52/6	27/	Light of Age		13/	13/6 to 14/6	13/	13/6
28 x 20		56s	70/	...	42.	Pennant		13/	13/6 to 14/6	13/	13/6
I.C. Coke		...	...	...	...	Turpentine	F.	5/-	4/9	5/8	6/6
I.X. Coke		...	...	...	...	Substitutes	4d., 1d.	3/	18/ per case	8/	2/6
Pig Lead	Free	25/6	25	31/	37/10	Shellac		3/6	2/6	8/	3/-
Austn.		...	...	...	...	Whiting—	6d., 9d.	...	...	...	...
Sheet Lead	10%, 20%	39/	50	43/6	49/	English		8/-	9/-	9 10/	£12 ton lots
Dampcourse		4 1/2 6/6	48	...	...	Colonial		6/3	4/9	5/	...
2 lb.		4 1/2 9/9	47	...	...	Resin, G grade	Free	32/6	36/-	30/	26/6
3 lb.		...	...	...	...	Carbide	80/ 150/	32/6	29/10	29 5/	29 7/6
Lead Pipe—	10%, 20%	44/	47 10/	46 5/	59/	" I X L "		34/-	32/10	33 10/	33
1/2 to 2 in. coils		46/	52	48 15/	60/	Scandinavian		...	...	...	...
Lengths to 5'		49/	61	48 10/	72/	Canadian		...	...	...	...
Compo. 1/2" & up		...	...	...	...	Japanese		...	...	...	...
Copper—		...	...	...	...	Bluestone—	100/ 200/	37/6	38/-	...	38/
Ingot		70	78/	10d.	10d.	Macclesfield		36(1 cwt c/s)	...	37/6	...
Sheet	25%, 40%	1/5 1/2	1/7	1/8	1/8	Australian		...	...	...	...
Brass		1/3	1/2 to 1/6	1/6	1/6	Japanese		...	...	...	...
Sheet	25%, 40%	...	...	...	...	Stock Tar, 42 g.	25%, 35%	...	1/5	60/-	...
		...	...	...	...	Woolpacks—	Free	...	6/	5/9	...
		...	...	...	...	42 x 1 1/2		4/5	4/6	4/9	4/9
		...	...	...	...	54 x 1 1/2		...	...	...	...
		...	...	...	...	Cornsacks—	Free	...	...	...	...
		...	...	...	...	2 1/2 lbs. (Oats)		9/9	12/6	11/6	10/9
		...	...	...	...	2 1/2 lbs		9/10 1/2	10/6	10/-	10/7
		...	...	...	...	Branbags	Free	...	...	...	...

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Two Cheque Questions

(From "The Australasian Insurance and Banking Record.")

A correspondent has raised questions regarding cheques which, although not new, have a practical interest. One of these relates to the effect of a "not negotiable" crossing on a cheque. The main thing to be remembered is that this crossing does not render the cheque non-transferable. The language of section 87 of the Federal Bills of Exchange Act is, "where a person takes a crossed cheque which bears on it the words 'not negotiable,' he shall not have and shall not be capable of giving a better title to the cheque than that which the person from whom he took it had." This, it will be noted, does not purport to take away the transferability of the cheque, but simply imposes a condition affecting the nature of the interest transferred, reducing it from an absolute to a relative standard.

Paget remarks that the "not negotiable" crossing is often misunderstood, many people believing that a cheque so crossed is not transferable, but payable only to the payee through his banker. The author goes on to point out that this misapprehension may have arisen from our section 13, which says that when a bill contains words prohibiting a transfer, or indicating an intention that it should not be transferable, it is valid between the parties thereto, but is not negotiable. Paget adds that it is only by reference to our section 87 that the true effect of the crossing is arrived at, probably because the Legislature when it means to stop transfer says so expressly, as in section 13, whereas section 87 says nothing as to transfer. Paget states the final result to be that a cheque with a "not negotiable" crossing remains transferable, but is deprived of the full character of negotiability. "However honestly and for value a transferee may take it he cannot acquire any better title to the cheque, or its proceeds, or any better right against any party to it, than his transferor had."

Halsbury sums up the matter by saying, "The effect of adding the words 'not negotiable' to a cheque is not to impede the transfer, but to perpetuate in the hands of any transferee whatever defect or infirmity of title may affect the person who first transferred the cheque with those words on it."

Accordingly a "not negotiable" crossing does not prevent the application of section 88 of our Act, which provides that, where a banker in good faith and without negligence receives payment for a customer of a cheque crossed generally or specially to himself, and the customer has no title or a defective title thereto, the banker shall not incur any liability to the true owner of the cheque by reason only of having received such payment. But though the application of the section is not prevented, it is to a certain extent affected, because the presence of the crossing imposes upon the banker an additional degree of caution which affects a charge of negligence.

In the *Permewan, Wright* case in 1914 all the cheques under consideration were cross "not negotiable." The bank succeeded as to some and failed as to others, showing that the crossing was only one element in the condition of things, which constitutes negligence. Griffith, C.J., went the length of saying, "In my opinion, the words 'not negotiable' on a crossed cheque are a danger signal held out before every person who is invited to deal with it, and are equivalent to saying, 'Take care, this cheque may be stolen.'" Isaacs, J., declared, "The words, 'not negotiable,' though restricting the negotiability of

the cheque are not prohibitive of payment to a person other than the named payee or bearer; they are consistent with such payment provided there is no bad faith or negligence. Consequently, their mere presence cannot determine the question of negligence. That must depend, like very other case of negligence at common law, on a fair examination of the circumstances as they appeared at the time."

Another question mentioned by our correspondent touches the precautions which bankers should take when opening an account for a new customer. That matter was discussed by the Privy Council in the *English, Scottish and Australian Bank's* case in 1920, and by the High Court in *Kennedy's* case a few months afterwards.

The net result seems to be that a banker may not be safe if he fails to make inquiries or to obtain a reference. In the first case a man, who gave the name of Thallon, entered the bank's head office in Sydney and said that he wished to open an account. He gave as his address certain well-known residential chambers in Sydney. Being asked how much he wished to bank, he said, "£20," and handed in that sum in bank notes. He was given a cheque book, and a ledger account was opened. This was on the 7th June. No inquiry was made at the address indicated. On the 8th June "Thallon" paid in a cheque for £786 payable to a number or bearer. This cheque had been intended for the Commissioners of Taxation, but had been stolen. On the 9th, 11th and 12th June, three cheques were presented for payment, and were paid, the credit being substantially exhausted. They were presented by persons who had an order in each case signed by "Thallon"—a practice which had been arranged with the bank in the first instance.

Their lordships held that the bank was not liable. They said that "if it was laid down that no cheque should be collected without a thorough inquiry as to the history of the cheque, it would render banking business impossible, and customers would be left for long periods without available money. If the cheque had been for some unusually large sum perhaps suspicion might have been roused. This is really a question of degree, and their lordships cannot see that the trial judge was wrong in thinking that £786 was not a sum of such magnitude as to create the duty of inquiry." Their Lordships laid it down that the test of negligence is whether the transaction of paying in any given cheque, coupled with the circumstances antecedent and present, was so out of the ordinary course that it ought to have aroused doubts in the bankers' mind and caused them to make inquiry. The point most emphasised in the judgment is the fact that the account was opened with cash.

In *Kennedy's* case, the High Court arrived at a conclusion against the bank. A man unknown to the bank was permitted to open an account with £5 notes and four crossed cheques, all payable to a number or bearer, and crossed "not negotiable." Without making any inquiry as to the man's title to the cheques, the bank collected them. On the following day the man, by an open cheque, drew out almost the whole of the amount to credit, and paid in four other crossed cheques, including one belonging to the plaintiff and payable to number or bearer, and crossed. These four cheques were also collected without inquiry. The court held that the circumstances in which the account was opened were such as to put the bank on inquiry, that the duty of inquiry extended to the transactions of the next day, and in the absence of reasonable inquiry the bank was guilty of negligence, and was not entitled to the protection of section 88.

The moral appears that in no case should an account be opened entirely or substantially with crossed cheques.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

Firms Registered.

Don Brass Foundry, brass founders and finishers, 191 Victoria-road, Marrickville; proprietor: Percival V. Donney.

E. J. Davoren & Sons, grocers and hardware dealers; Hoskins-street, Temora; proprietor: Ernest J. Davoren.

Loftus Import Co., importers of hardware sundries, 10 Catherine-street, Sydney; proprietor: James A. Jarman.

Alston Iron Foundry, iron founders, 16 George-street, Leichhardt; proprietors: Alfred E. Green, George T. Verryck, David A. Answorth, and George W. Banks.

Ritchie Bros., agricultural engineers, manufacturers of railway rolling stock, and general contractors, Queen and Marion streets, Auburn; proprietors: Stuart D. Ritchie, George H. Ritchie, Sidney Ritchie, and Robert B. Ritchie.

Company News.

Crossle, Scott & Duff Bros. Ltd. have been registered with a capital of £3000 in £1 shares. Objects: To carry on the business of engineers, machinery merchants, etc. Subscribers: William G. Crossle, Daniel Scott, William V. H. Duff, Edward L. Duff, Graeme Stobie, Ray E. Wood, and Frank Hutchison. Reg. office: Sydney.

Austral Refrigerators Ltd. have been registered with a capital of £30,000 in £1 shares. Objects: To acquire by agreement certain inventions in respect to electric refrigerators, etc. Subscribers: R. P. Laurence, William A. McNutt, F. B. Sheenstone, W. A. Freeman, Edward E. Jennings, L. B. White, and A. G. Twedle. Reg. office: Sydney.

Efco Mfg. Co. Ltd. have been registered with a capital of £15,000 in £1 shares. Objects: To acquire the business of brassfounders and manufacturers carried on under the style of Efco Mfg. Co., at Arnecliffe. Subscribers: Richard Facer, Thomas Facer, Reginald Facer, Ada Facer, Martha H. Facer, Margaret R. I. Facer, and Ivy N. Facer. Reg. office: Arnecliffe.

Econ Water Tap Ltd. have been registered with a capital of £15,000 in £1 shares. Objects: To acquire certain Commonwealth letters patent and to carry on business as manufacturers, merchants, distributors of, and dealers in the "Econ" water tap, etc. Subscribers: Robert A. Miller, William V. Beattie, Frederick A. Royle, Sydney J. Auliffe, Noel D. Fethers, Lawrence Kenney, and Malcolm S. Stanley. Reg. office: Sydney.

Squire Auto-Plough Tractor Co. Ltd. have been registered with a capital of £5000 in £1 shares. Objects: To adopt an agreement for the purchase of a certain invention for improvements in automotive ploughs and like agricultural machines, etc. Subscribers: Frank H. Leverrier, Raimond A. Squire, John M. Forsyth, George H. Deaton, John Harding, Walter G. Forsyth and John W. Forsyth. Reg. office: Sydney.

New Zealand

Company News.

C. B. Hansen & Co. Ltd. have been registered with a capital of £2000 in £1 shares. Objects: To carry on the business of general electrical dealers and engineers in all branches. Subscribers: C. B. Hansen and W. I. Hansen.

Reid & Gray Ltd. have been registered with a capital of £25,000 in £1 shares. Objects: To carry on the business of agricultural implements manufacturers and importers, engineers, millwrights, ironfounders, contractors, merchants and manufacturers, etc. Subscribers: George Gray, T. J. Gray and A. W. Gray.

Queensland

H. V. Michel & Co., general storekeepers, New Cleveland-road, Tingalpa, have been registered under the Firms Act; proprietors: Howard F. Michel and Johann Michel.

Company News.

The Engineering Supply Co. of Australia Ltd. have purchased, it is understood, the entire assets of Rolleys Ltd., in liquidation.

Brisbane Scale Works Ltd. have been registered with a capital of £20,000 in £1 shares. Objects: To carry on the business in all its branches of manufacturing and vending scales, steelyards, weighing bridges, weights for measuring, and all appliances, parts and accessories, etc. Subscribers: John F. Donaldson, Miles R. Fox, Clement L. Fox, William Esau, Hubert H. Beven, Vincent D. McCarthy, and Henry L. Fraser. Reg. office: Balaclava-street, South Brisbane.

Smellie & Co. (Ayr) Ltd. have been registered with a capital of £15,000 in £1 shares. Objects: To acquire the freehold property of Smellie & Co. Ltd. at Ayr, together with the buildings and fittings and portion of the stock-in-trade, and to carry on the business of general hardware merchants, importers, indentors and manufacturers' agents and dealers in all kinds of metal and machinery, and to carry on any other business of a similar nature, etc. Subscribers: Nellie Carter, Violet Saxby, William M. Saxby, Thomas P. Olsen, George C. Olsen, Ferol Ashworth, and Leonard Ashworth. Reg. office: Ayr.

South Australia

H. C. Ewer & Co., general hardware merchants and indent agents, 31 Bower Buildings, Charles-street, Adelaide, announce that the firm name has been abandoned.

Broadcast Seed Drills Ltd. have been registered with a capital of £20,300 in 6000 1/- shares and 20,000 £1 shares. Objects: To purchase, apply for, or otherwise acquire or renew any patents, licences, concessions, etc., conferring an exclusive or non-exclusive or limited right to use any secret or other information as to any invention, and in particular to acquire from Lionel Barrington Knight and all or any other persons interested therein, all their rights to and interests in an invention for improvements in seed drills, and to adopt and carry into effect a certain agreement, etc. Subscribers: Lionel Barrington Knight, Henry Thomas, Matthew Edward Goode, Edmund Edward Lang, and Ronald Barrington Knight. Reg. office: Peel Chambers, Peel-street, Adelaide.

Victoria

G. Gay & Co., timber, iron and metal dealers, 114 Armstrong-street, South Ballarat, announce that William Henry Valpied has retired from the firm.

Firms Registered.

Wedgwood's, crockery, hardware and fancy goods dealers, 200 High-street, Northcote; proprietor: Lionel Ruben.

J. H. Coles 3d., 6d., & 1/- stores, fancy goods and general merchants, 230 Smith-street, Collingwood; proprietors: J. H. Coles Pty. Ltd.

J. H. Coles Stores, 3d., 6d., 1/- and 2/6 stores and general merchants, 230 Smith-street, Collingwood; proprietors: J. H. Coles Pty. Ltd.

Company News.

H. A. Barnard Pty. Ltd., iron and steel merchants, have removed from York-street to Yarra Bank-road, South Melbourne.

The Pioneer Woodware Co. Pty. Ltd. announce that the capital of the company has been increased from £30,000 to £50,000.

Cisco Pty. Ltd., manufacturers of cisterns and sanitary ware, etc., have been registered with a capital of £2000 in £1 shares. Subscribers: William Evan Downing and Ernest Arthur Wright.

Johnston & McMillan Pty. Ltd. have been registered with a capital of £7,500 in £1 shares. Objects: To acquire the business of electricians, hardware merchants and ironmongers, etc., carried on by Johnston & McMillan. Subscribers: James William Johnston and Gordon Leonard McMillan. Reg. office: 647 High-street, Thornbury.

Gray Appliances Pty. have been registered with a capital of £2000 in £1 shares. Objects: To acquire as a going concern the business of general electrical and mechanical engineers carried on by Frederick Taylor Gray. Subscribers: Frederick Taylor Gray, Ivy Gray, and Frederick Herman Gray. Reg. office: 493a Swanston-street, Melbourne.

Chas. H. Hoskin & Sons Pty. Ltd., hardware merchants, have been registered with a capital of £25,000 in £1 shares. Objects: To acquire the business carried on by Charles Hamilton Hoskin, John Polkinghorne Hoskin, and Alexander David Beynon. Subscribers: John Polkinghorne Hoskin and Charles Hamilton Hoskin. Alexander David Beynon is also a director. Reg. office: Firebrace-street, Horsham.

Western Australia

A. M. Duncan has purchased the drapery and hardware business of J. J. Evans, Wytchcliffe.

P. Horsfall & Co., patentees and sellers of bag lifters and loaders, Queen-street, Pingelly, have been registered under the Firms Act; proprietors: Arthur Samuel Webb and Percy Horsfall.

Agents and Agencies

J. L. Walters Ltd., of 222 Clarence-street, Sydney, have been appointed Australian representatives for A. N. Calpakian, London (high-grade briar pipes), and British Games Ltd., London (carded and boxed indoor games).

A. G. Kidston & Co., of Somerset House, 9 Martin-place, Sydney (and of Melbourne and elsewhere), have been appointed Australian representatives for Japy Freres & Cie, Beaumont, France, manufacturers of cast iron semi-rotary pumps in all sizes. Mr. Forsyth Johnston, of Dunedin, represents A. G. Kidston & Co. in New Zealand.

Mr. Harold R. Richardson, of Broughton House, 181 Clarence-street, Sydney, with branches in the other States, has become Australian representative for George Wostenholm & Son Ltd., cutlery manufacturers, of Sheffield. Mr. V. T. Cranmer, who formerly held the agency, joins Mr. Richardson's staff, and will have charge of the new section.

Stevenson & Co., architectural hardware merchants, of Palm Court, O'Connell-street, Sydney, have been appointed sole Australian agents for the Vincent Whitney Co., San Francisco, U.S.A., manufacturers of "Whitco" casement and transom hardware. They have also been appointed agents in N.S.W. and Queensland for James Gibbons Ltd., Wolverhampton, England, makers of high-class locks and fittings, steel casements, etc.

Mr. J. K. Merritt, of 285a Little Collins-street, Melbourne, and 420 George-street, Sydney, has been appointed to represent United Wire Works (Birmingham) Ltd., of Birmingham, England. At both addresses samples may be seen of this company's manufactures, which include cold rolled and drawn wire and strip in brass phosphor bronze and nickel silver, the strips in widths up to 2 in. and of any thickness up to ½ in. Rods of similar materials are also made by the company up to about 2 in. diameter, together with copper wire of all sizes and for all purposes.

Travellers**In New Zealand.**

Mr. C. H. Collis, of E. H. Collis Pty. Ltd., is now on a visit to New Zealand. He expects to be absent about three months, during which time he will visit all the main centres, displaying samples on behalf of the various manufacturers represented.

In South Australia.

Mr. W. R. Volum, of W. R. Volum & Co. Pty. Ltd., Melbourne, will be in Adelaide during March. He will display complete ranges of Kienzle clocks and Herder tools and appliances at the sample rooms of the Commercial Travellers' Association.

From America.

Mr. A. S. Hunt, of the export department of Henry Disston & Sons Inc., Philadelphia, U.S.A., reached Sydney by the s.s. "Arafura" on February 18, and proposes to make a round of visits on the hardware trade in the Commonwealth of Australia and Dominion of New Zealand.

To and From Europe.

Mr. Ernest Wunderlich, chairman of directors of Wunderlich Ltd., Sydney, accompanied by Mrs. Wunderlich, left by the R.M.S. "Cathay" on February 21, on a tour of the Continent and England. They expect to be absent ten months.

Mr. R. L. D. Kidston, of A. G. Kidston & Co., London and Glasgow, after spending some months in Australia and New Zealand, calling on his firm's customers in all the principal centres, returns via America and Canada by the R.M.S. "Niagara," leaving Sydney on March 8.

Mr. T. L. Elliott, of Carr & Elliott, 204 Clarence-street, Sydney, who is permanently resident in Birmingham, reached Sydney early in February via Singapore and Java. After a rather hurried visit to the principal centres of the Commonwealth, he will proceed to New Zealand, where he has special business to transact.

Mr. J. A. Simmons, a director of the Australasian Trading Co. (1927) Ltd., London, whose interests are iron, steel, and non-ferrous metal products for manufacturers, builders, contractors and others, is on a visit to Australia for the purpose of increasing business in the firm's specialities. After spending nearly two months in Adelaide, Mr. Simmons came up to Sydney overland by car that he might see something of the interior of Australia, arriving on February 6. He will remain in Sydney about six weeks, after which he will visit Melbourne before returning to England.

British Trade Exhibition

Melbourne, February 23 to April 10, 1928

First Report by our own Representative.

Opened at the Exhibition Building, Melbourne, on February 30, the British Exhibition of 1928 continues until April 10 next. The opening ceremony was performed by the Governor-General of Australia (Lord Stonehaven), and included a musical programme, massed choirs and orchestras combining to present a really impressive scene.

In addition to the various exhibits, a free film theatre is provided, showing tours of Great Britain by rail and aeroplane, launching of battleships, industrial plants at work, and a trip along the Thames. Special functions are held daily, and every means of stimulating and holding interest is being used. Many slight criticisms might be made by captious visitors, but the fact remains that this exhibition is of considerable value from an educational point of view, and suggests the interdependence of all sections of the British Empire. It is pleasing to see the reminders to the public that Britain is still a large buyer of our various primary products, and that the policy of trade within the Empire is being emphasised.

An excellent catalogue is provided, and those acquainted with the difficulties of publishing a comprehensive list of the kind will appreciate the practical "lay-out," which enables the reader to find what he wishes to know with a minimum of trouble. A special word of praise is also due for the very useful "Historical Sketches," giving a short record of the origin and history of so many British manufacturing firms. This little section will interest many readers.

Two exhibits are of great interest, and alone bring many visitors. One is the huge 1000-h.p. Sunbeam car, which developed an average speed of over 203 m.p.h. at Daytona Beach, Florida, and the other, an "Avro" light plane fitted with a "Cirrus" engine similar to that used by Hinkler in his record flight to Australia.

Below we briefly describe some of the exhibits possessing most interest for our readers.

Cornelius Whitehouse & Sons Ltd., of Cannock, show a large assortment of slashers and garden shears, both of which are known throughout Australasia. Many good patterns are included in these two lines. Other tools in a comprehensive display are brace bits, augers, picks, mattocks, butchers' tools, and hammers.

J. Legge & Co. Ltd., of Willenhall, are makers of stamped and wrought case rim locks, ships' locks, and mortise locks of high quality. The familiar No. 2112 rim lock, with patented reversible latch bolt, is exceptionally useful. In addition the firm have a range of medium and cheaper grades in mortise lock sets, and cabinet locks in every class. The exhibit includes all these goods, as well as a selection of trunk, suit and attache case locks, padlocks of brass and iron, brass lock furniture in all qualities, and every description of brass cupboard turns and shutter knobs. Altogether a most complete range.

Parkes & Gnosill Ltd., of Walsall, display their hames in all patterns: the trade everywhere handle the various long top, short knob top,

and van hames. In addition the firm supply the "Orchid," "Dingo," and "Clux" brands. A good line is the new patent peak brazed draught hames, approved by users for their strong construction. Included in this exhibit are ordinary "Kangaroo" bolt and nut hames, woodless hames, and all "Colonial" patterns.

British Pens Ltd., of Birmingham, show lead pencils in all stages of production, as well as steel pens. The progression of the pen from strip steel through the various processes to the finished article makes an attractive exhibit.

All these manufacturers are represented by **Hubert Johnson Pty. Ltd.**, of Commerce House, Flinders-street, Melbourne.

W. Tyzack, Sons & Turner Ltd., of Sheffield, have been before the trade since 1812. Founded by Mr. William Tyzack, the business has been controlled by members of the family throughout its history. A great-grandson of the founder, who bears the same name, is the present managing-director. This concern has a well-deserved reputation, their products being known both at home and abroad. They are showing here the "Elephant" brand scythe blades, hand and circular saws, chaffcutter knives, files and rasps, hacksaw blades, and agricultural tools and fittings.

The local agents are **F. Lowe & Co. Ltd.**, of Lonsdale-street, Melbourne.

John Yates & Co. Ltd., of Birmingham, include in their display garden tools of every possible description: picks, mattocks, hammers, wedges, crowbars, drill and quarry bars, asphalt tools, and a selection of shovels and special tools suitable for municipal works and public departments. Unusual types of tools shown here are those used by whalers, such as whale spades, and also canoe adzes and similar appliances made specially for the South Sea Islands.

Brown Bayley's Steel Works Ltd., of Sheffield, are large manufacturers of special steels, which are to be seen on this stand. Nine different types of stainless steel are produced, each perfected for a special purpose. Their technical director is Mr. Harry Brearley, the discoverer of stainless steel. The varieties include carbon and alloy steels, railway and tramway steels, and "longstrand" steel. In the stainless kinds they have developed a class suitable for valve parts, turbine blades, cutlery, surgical instruments, and many other appliances.

The British Vacuum Cleaner and Engineering Co. Ltd., of London, feature "Turbinet" cleaners of all kinds, whether for domestic uses or for hotels, factories, and theatres. All are of the enclosed dust bag pattern, which is now preferred. These machines are of good quality and excellent finish, and are offered complete with all attachments. They compare favourably with any make of vacuum cleaner.

These various products are represented by **H. O. White & Co.**, 515 Collins-street, Melbourne. The New South Wales representative for the British Vacuum Cleaner & Engineering Co. Ltd. is **Mr. B. C. Boldsmid**, 250 Pitt-street, Sydney.

John Aynsley & Sons, of Longton, display their well-known china. Aynsley bone china is deservedly popular for its fine quality and decorations. The ranges include tea, breakfast, and dinner ware, and a fine display of lustre and nursery ware, the bowls and vases also attracting a deal of attention from visitors.

Stevens & Williams Ltd., of Brierley Hill, Staffordshire, manufacturers of Royal Brierley crystal, show a most attractive selection of hand-cut crystal glass table and decorative ware. A feature is the fine coloured designs. These are presented in a variety of shades which harmonise with furnishings of all kinds. In addition to the domestic ware there are motor bottle, and cigarette holder novelties which should prove interesting to buyers.

Pountney & Co. Ltd., of Bristol, are manufacturers of Bristol sanitary earthenware of all kinds, and their range is to be seen at this stand.

Henry C. Dobson Ltd., of 407 Kent-street, Sydney, and 197 Elizabeth-street, Melbourne, are agents for these three manufacturers.

The Campbell Tile Co. Ltd., of Stoke-on-Trent, present a comprehensive display of glazed wall tiles, white and coloured. There are many finely decorated patterns, and also hand-painted designs. The slabbed fireplaces, with hearths and faience kerbs, represent the last word in furnishings of the kind.

Campbell, Walker & Co. Pty. Ltd., of 411-13 Lonsdale-street, Melbourne, are the representatives.

Stuart & Sons Ltd., of Stourbridge, have a most attractive display of their English crystal. The material lends itself to display purposes, but apart from this the individual designs shown are excellent. Many pieces are quite works of art. One decanter, for example, with delicate traceries and of elegant shape, has alone drawn considerable comment from visitors. We understand, however, that all the crystal here is in constant production. The selection includes goblets, table services, jugs, sweets dishes, flower centre bowls, vases, and other domestic articles.

Photographs depicting the engravers at work are attracting the passer-by, and attendants are busy explaining the process. The resident representative, who is acquainted with the Stuart factory, gives to inquirers much interesting information. It seems that the employees of the Stuart house are trained from boyhood. The various operations are taught from father to son, and competent etchers and engravers take years in the training.

The makers are constantly creating new shapes and new designs, every one of which has to be accurately drawn before being actually made, so that the production of this ware is far from being a matter of mere repetition. It is for this reason that the industry is different from most others. A number of new ideas are exhibited in all lines, and the Stuart stand is well worth a careful inspection.

The offices of the representatives, **Mr. A. B. Wahlers**, who carries stocks for the convenience of buyers, is at Tasmania House, Flinders-lane, Melbourne.

Thos. Forester & Sons Ltd., of Longton, Staffordshire, are showing their "Phoenix" brand pottery, comprising decorative ware in a large range of patterns and colourings. An interesting feature is an essentially Australian design, consisting of a kookaburra on a black or tangerine ground. China and earthen teaware are also displayed, some good lines being offered.

Mr. James I. Berry, McEwan House, Melbourne, is the Victorian representative.

Iceless Ice Freezer Co. Ltd., London, show the "Freezolux" ice and ice cream maker. This ingenious

little appliance is made of aluminium, and produces at one working about one pound of ice or ice cream from tap water. It is quite simple to use.

The Victorian and Tasmanian agent is **Mr. Max C. Sewell**, McEwan House, Melbourne.

W. & T. Avery Ltd., of Birmingham, the well-known makers of scales and weighing machines, both for retail establishments and industrial purposes, have a fine display of their appliances. The "White Knight" visible-indicating counter scales run from 1 lb. to 20 lb. capacity, and are with or without price computation. Higher capacity self-indicating machines are attractively finished in red cellulose enamel. There is also a personal weighing-machine, self-indicating, and other types, which are supplied either of English or Australian manufacture.

The company are represented here by the **Australasian Scale Co. Ltd.**, Angel-place, Sydney, and 255-57 King-street, Melbourne.

O-Cedar Ltd., of Slough, Buckinghamshire, have adopted a novel method of showing their various mops and polishes. A handsomely furnished drawing-room is staged, enabling the demonstrators to give convincing evidence of the ability of the "O-Cedar" appliances to maintain the house in a state of cleanliness with a minimum of effort. This display is effectively produced, and attracts a deal of interest.

Gibbs, Bright & Co., of 34 Queen-street, Melbourne, are the agents.

British Castors Ltd., of Birmingham, are the makers of standard types of castors, ranging from the cheap lines, suitable for mass production furniture and metallic beds, to tubular spring castors of high grade for heavy tables, hospital furniture, and the like. There are also ballbearing types, fitted on high quality hardened and ground balls with a dust-ejecting ball race. Many castors in special colours and furniture wood tints are a feature of the firm's products.

Mr. Hugh Scott-Young, of 444 Little Collins-street, Melbourne, is the agent.

Thos. R. Ellin (Footprint Works) Ltd., of Sheffield, have a representative selection of their tools, sold under the familiar brands of "Footprint" and "Domino." For mechanics' and engineers' tools, as well as many tools for other trades, this company have established a solid reputation. Quite a number of special tools were the invention of **Mr. T. R. Ellin**, and at one time and another have been patented by him. Probably no single tool of general utility has ever proved so popular as the "Footprint" spanner. For "shifting" a stubborn nut or screw it remains the best of its kind. New patterns are constantly being added to this firm's catalogue, and the exhibit is well worth inspection.

Crampton Bros. Ltd. are now associated with Ellins, and their "Climax" and "Clinker" cramps are here displayed, including joiners', cabinetmakers', carriage and waggon builders' cramps, in addition to special designs for shipbuilders, pattern makers, and others.

Mr. Howard F. Hudson, Box 2643, G.P.O., Sydney, and Box 674, G.P.O., Melbourne, is the Australian representative.

The London Aluminium Co. Ltd., of Birmingham and London, make a very interesting show of their "Diamond" brand aluminium ware. At the outbreak of the war in 1914 the company had just completed a fine factory at Birmingham, but instead of carrying on for trade purposes the works were turned to the service of the nation, and aircraft materials were supplied until the Armistice. Now every class of

domestic ware is manufactured, and also special plant for chemical works. The quality and finish of the goods displayed are of the best, and make an excellent array.

Mr. R. W. Warrell, Box 459c, G.P.O., Melbourne, is the agent.

Dorman, Long & Co. Ltd., of Middlesbrough and London, with branches at Melbourne and Sydney, show a range of new British standard beams, channels, angles, bulb angles and tees; pressed and rolled steel troughing. Rail and tram rails, bridge rails, electric conductor rails, and many other types are exhibited. Specimens of Dorman, Long steel, bent cold, demonstrate the great ductility of this product. Many other specimens of steel are shown, also high tensile and mild steel wires. Some of the principal by-products in the manufacture of coke are most interesting: they are all exhibited in an attractive way, and are highly instructive.

Robert Hudson Ltd., of Leeds, are amongst the largest makers of light railway and tramway plant and materials. Their exhibit on this occasion is of steel tip trucks, a class of appliance in which they excel. Notwithstanding the world competition which is faced by the truck manufacturer, it would be difficult to find a corner of the globe where this type is not in use. The cane and mine fields of Queensland, and the brown coal workings at Yallourn, Victoria, are amongst Australian users.

Special features of these tip trucks are reinforced corners on bodies. The patent bridle catch, and pressed steel end standards, made in one piece, give immense strength. A balanced link prevents accidents or damage when coupling. It was noticeable that one man could tip a ton load with ease, showing the perfectly balanced construction.

The standard "Victory" type is a one-yard side-tipping truck of 2 feet gauge, and the same of three-quarter-yard capacity. Both of these are exhibited.

Knox, Schlapp & Co., of Collins House, Melbourne, and Kembla Buildings, Sydney, are the Australian representatives.

Electrolux Ltd., of Luton, Bedfordshire, are best known to Australians as the makers of the "Electrolux" vacuum cleaner, an efficient appliance which has been successfully marketed on a world-wide basis. While this portion of their business is adequately displayed here, the greatest interest to the public centres in the "Electrolux" refrigerator, now for the first time introduced to this country.

The construction of this refrigerator is such that without any power, save an electric plug and tap water, an efficient appliance is offered which can not only be maintained at a low temperature, but provides ice for household use when required. And this is done without the usual motor, compressor, and fan. It is thus noiseless, and needs no attention. Instead of moving machinery, there are steel cylinders and pipes, welded and hermetically sealed. Within these the refrigerant is caused to vapourise, condense, revapourise, and recondense, its circulation being effected by a small electric heating unit. Two electric models are shown, but other models, operated by gas and kerosene, will shortly be available.

This apparatus is housed in a handsome cabinet, with roomy compartments for food and icemaking. Every part is excellently finished, the whole making a fine piece of furniture, of strong construction and attractive design. The device appeals strongly to visitors, a crowd being constantly on hand to inspect a refrigerator which is so free from complications and so simple to use.

The local office of the company is at "Electrolux House," 164 Swanston-street, Melbourne.

The Skefko Ball Bearing Co. Ltd., with head offices at Luton, England, show a complete range of the company's ball and roller bearings for every possible bearing condition. Amongst these are both single and double row ball bearings, the latter being self-aligning. The single row ball bearings are provided with deep grooves, and have no filling slot. This type is specially suitable for thrust load, when high speed makes it impossible to use an ordinary thrust bearing. Taper roller bearings are shown, which are used in front hubs of motor cars and similar jobs, and cylindrical roller bearings for heavy loads at high speeds, and where lateral displacement within the bearing is desired.

The local offices of the company are at 595 Bourke-street, Melbourne.

R. & J. Dick Ltd., of Glasgow, show their well-known "Balata" belting, ropes, and conveyors.

Bruntons, of Musselburgh, Scotland, have an exhibit of wire rope, steel strip, and shafting.

Jenson & Nicholson Ltd., of London, old-established manufacturers of paints, varnishes, and enamels, have an excellent display of their goods, which are amongst the leading materials of their kind, and possess a world-wide reputation.

For these three manufacturers, **Hardie Trading Pty. Ltd.**, of 581-83 Little Collins-street, Melbourne, are agents.

Hopkinson's Ltd., of Huddersfield, manufacturers of high-grade steam specialties for land, locomotive, and marine work, show examples of their products. The details and finish of this company's appliances are exceptional.

Henry Wells Oil Co. Ltd., of Salford, are represented by germ process oils for all classes of lubrication. World patents are in existence to protect these oils, which are added to ordinary oils to increase their efficiency.

F. W. Brackett Co. Ltd., engineers, of Colchester, exhibit air compressors, vacuum pumps, centrifugal plunger, rotary and diaphragm circulating water screens and Bracket screens.

Petters Ltd., of Ipswich, manufacture two-stroke engines, of all types, from small portable to large power units. Petters are amongst the largest makers of oil engines in the world.

Igranic Electric Co. Ltd., with works at Bedford, England, show a large range of electric devices, automatic control gear, conveyers, dimmers, and a fine selection of radio parts and accessories. Many excellent wireless components have given this company a world-wide reputation.

Callender's Cable and Construction Co. Ltd., of Erith and elsewhere, manufacture insulated cables, heavy mains, and cables of all kinds. Specimens of their work are well displayed.

S. G. Brown Ltd., of North Acton, are well known as makers of loud speakers, headphones, magnetic "pickups," and scientific instruments.

Aveling & Porter Ltd., of Rochester, are the old-established makers of steam and crude oil road rollers. Their types cover all needs from 6 to 20 tons.

Barford & Perkins Ltd., of Peterborough, manufacture petrol, crude oil, kerosene, and producer gas rollers in a range from 30 cwt. to 16 tons.

All of these manufacturers are represented by **Noyes Bros. (Melb.) Pty. Ltd.**, with branch or related establishments at Sydney, Adelaide, Hobart, and Launceston.

Publications Received

Facts About Fallowing.

This is the alliterative title of a booklet which H. V. McKay Pty. Ltd., of the Sunshine Harvester Works, have had printed at their own press for free distribution. The "facts" recorded are not of their gathering. The author is really J. Leith Gillespie, a bachelor of agricultural science, but the firm have the right to the results of his study and are giving them publicity in this manner. By way of illustration they introduce several of their implements for the cultivation of fallow land. Otherwise no advertising is attempted.

With works at Sunshine, Victoria, and showrooms in the city of Melbourne, the issuing firm have branches in Sydney, Brisbane, Adelaide and Perth, and an office in London.

"Crown" Stoves and the Mystic Circle.

An advertising novelty entitled "The Mystic Circle" has been issued by the Crown Stove & Foundry Co., of Hawthorne-street, Woolloongabba, Brisbane. The magic circle proper, a revolving card, is on page three of a stiff folder. It carries twelve questions set round the circumference, and when any one of these is brought under a pointer at the top and the folder closed an arrow on the front page, the magic arrow, gives the correct answer on a similar fixed circle or clock face. The explanation is that a magnetised strip of metal hidden under the question card and revolving with it attracts through the paper the steel arrow, which is thus made to sing the praises of "Crown" stoves. One of the answers is that "There are 70 distinct models."

Australian Engineering Standards.

Two new publications were recently issued by the Australian Commonwealth Engineering Standards Association. The first of these, issued twelve months ago as a tentative specification and now standardised without amendment, has to do with "Insulation dimensions and resistances of enamelled plain copper wire for electrical instruments and apparatus." A tentative or provisional standard specification for the "electrical performance of alternators of the steam turbine-driven type" forms the second little volume. In this case suggested modifications are invited from any of those practically interested.

Priced at 1/-, or 1/2 by post, either of the pamphlets may be contained from headquarters at 16 College-street, Sydney, from the branch offices in the other States, or from the technical booksellers.

British Wire Ropes.

With the compliments of B. K. Morton Pty. Ltd., of 512 Little Collins-street, Melbourne, and elsewhere, we have received two seasonable publications.

The one is a wall calendar issued by Thos. & Wm. Smith Ltd., of Newcastle-on-Tyne, the bold date-slips of which cover the period January, 1928, to June, 1929.

Messrs. Smith used to issue a vest-pocket diary at the end of the year, but this service has been taken over by British Ropes Ltd., an association of British rope manufacturers including the Newcastle firm. In the new hands the little volume has not been allowed to suffer. It includes the old mechanical features—the slide-out fastener and the self-registering pencil—while the binding is as natty as ever, and the printed pages cover a section of Aus-

tralian information, postal rates, and what not. Over twenty firms, English, Scottish and Welsh, go to make up the combination registered as British Ropes Ltd., and in the Commonwealth we have the Australian Wire Rope Works Ltd., an outgrowth from this British stock.

File Making.

At their Templeborough Works, Sheffield Steel Products Ltd. are engaged in the manufacture of files among other things. Their works manager, Mr. J. W. Walker, an expert in the business, contributed some little time ago an article on file making to "The Engineer," and this article the company have had reprinted for private circulation. The system described by Mr. Walker is that which obtains at Templeborough, and nothing better can be found in Great Britain, the works being well equipped, and the most modern methods employed.

Up to fifty years ago, says the writer, practically all files were hand-forged, whereas to-day they are just as largely made by machinery. They are generally made from open-hearth steel, which is relatively low in cost, and can be made in large quantities to any required analysis. The analysis called for at Templeborough is shown, and so, too, a number of the machines employed for various operations. That the art of file-making will witness further modifications and improvements is suggested by the following sentences:—"The methods of grinding at present employed, both hand and machine, are now undergoing close scrutiny. Efforts are being made to replace the natural grit stone by abrasive wheels, and it may safely be predicted that in ten years' time or so natural stones will be extremely rare. The change is desirable on health grounds alone, sandstone wheels being considered to be the main cause of grinders' fibrosis. The practical advantages which may accrue from the change are (1) greater uniformity of finish, which would be an advantage for all classes of files; and (2) smoothness of finish, which is essential for all single-cut and also for second-cut and smooth double-cut files."

In this part of the world the company, who have works also at Birmingham and Warrington, are represented by Brown & Dureau Ltd.

A Misunderstanding.

"I've come about that job as is advertised for your warehouse," said the applicant.

"What are your qualifications for the work?" the advertiser asked.

"Work!" said the applicant in tones of disgust. "Why, I thought it was a foreman as was required."

"Drags in the Business."

When a mob of cattle is being driven along the road, certain beasts are always in the front, and certain others always in the rear. The latter are the "drags," and they have to be driven, or they would stop altogether. They are not ill, lame or hurt, but simply slow; some are born "drags," others are developed.

Every business has its "drags," every firm its progressive workers and its stagnant ones. Often the whole factory may be held up by reason of one or more "drags." The "drag" slows up all production and piles up output expenses. Unless carefully watched, the "drag" will react on the good worker, and too much drag will put any firm on the rocks.

There is only one place in a factory for a drag—the outside.

Machinery

Micro Gauge Set.

A set of micro gauges for shop-working gauge blocks was recently introduced by the Van Kewen Co., of 12 Copeland-street, Watertown, Mass., U.S.A. The set contains 81 gauges and includes sizes of blocks from 0.050 to 4 in. The set makes possible any combination in ten-thousandths of an inch from 0.200 up to the range of the set.

It is claimed that these micro gauges are the only ones made with a wear allowance. They are held within a tolerance of plus zero to plus 25 millionths of an inch, leaving an average wear allowance of about 15 millionths of an inch. For this reason the gauges are specially adapted for use on production work, particularly around grinding machines where wear is likely to make the gauge block permanently under size.

Portable Polisher and Grinder.

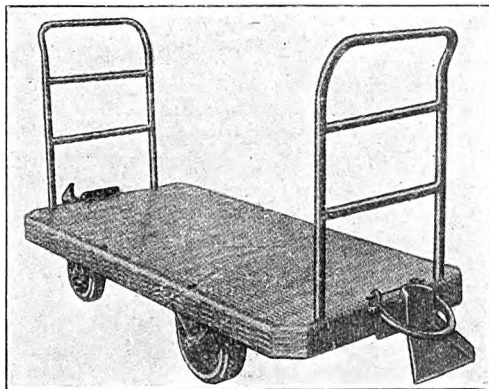
The Buckeye Portable Tool Co., of Dayton, Ohio, U.S.A., have brought out an air-driven tool for polishing and grinding flat surfaces. It is known as the Buckeye No. 63.

The tool is 27 in. long, $4\frac{1}{2}$ in. diam. at the largest point, and weighs 15 lb. complete. The wheel rotates at 6000 r.p.m. and can polish a surface 6 to 9 in. wide. It operates on the rotary principle, and has only four moving parts. Said to be smooth-running, simple in construction, and light in weight, it is fitted with a safety control valve in the handle near the air intake.

Steel Trailer with Rubber-Tyred Wheels.

A steel trailer with rubber-tyred wheels and fitted with an automatic coupler has been placed on the market by the Clark Tractor Co., of Battle Creek, Mich., U.S.A. These features are said to ensure safety of loads and speed of operation.

The trailer has a diamond steel platform 3 x 6 ft., and the top is 14 in. from the ground. The body is formed of a single piece of $\frac{3}{4}$ in. steel. The design is said to provide a body and frame of excep-



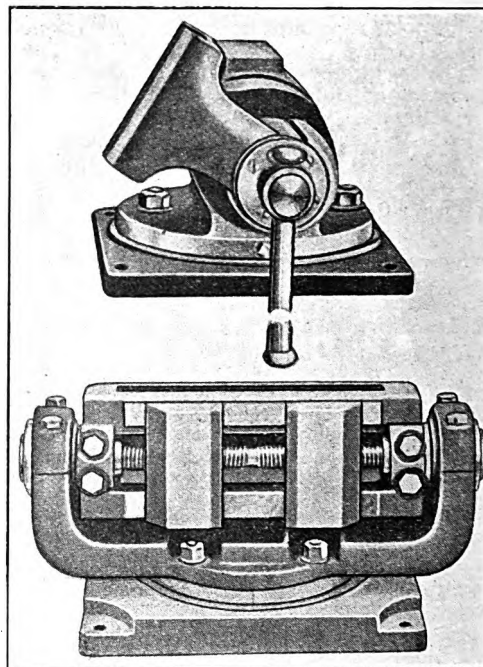
tional strength and rigidity, while the diamond impressions prevent the load from slipping. The adjustable racks are interchangeable for use on either the racks or the sides.

The claims made for this trailer are that it eliminates noise, saves wear and tear in floorings, reduces breakage to a minimum, and enables tractors to haul larger loads and longer trains. The trailer may be coupled and uncoupled from the tractor without the driver dismounting. The rubber tyres also eliminate sparks in paint and varnish shops when travelling on concrete floors.

Bench and Machine Vices.

Wearden & Guylee Ltd., of Bradford, England, have recently introduced a new line of bench and machine vices.

Both styles swivel on vertical and horizontal



axes. Thus the bench vice base can be rotated to any position required and locked there, while similarly the jaws can be inclined and locked at any angle up to 90 deg. on either side of the vertical position.

The machine vice, which for some uses may take the place of a jib, has self-centring jaws adjustable in the usual way by screw, and the support for the jaws swivels in trunnions and can be locked in position by a bolt at the bearings. Both the swivel base and the cradle on which the jaws are mounted are indexed in degrees.

The bench type can often be used on machines, while the machine type is thought to be advantageous on milling, shaping, and planing machines.

Both types are obtainable in five sizes, the jaws ranging from 2 in. wide to 6 in. wide, and opening 3 in. and 7 in. respectively.

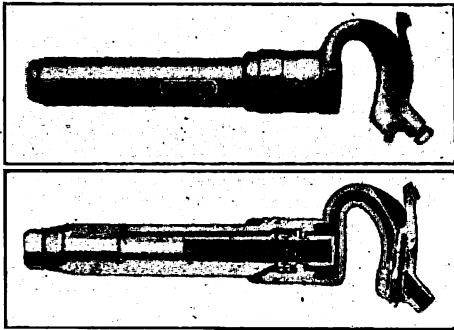
General Purpose Flexible Shaft Unit.

The Stow Manufacturing Co. Inc., of Binghamton, N.Y., U.S.A., have designed a flexible shaft unit for die-sinking, vulcanising, sanding, filing, and finishing work on both wood and metals. Known as the "Lindy," this device is for particular use with rotary files. It is furnished complete with extension cord and plug and a motor for use on 110-volt 60-cycle single-phase a.c. circuits.

The motor has a three-step cone pulley and three speeds of 900, 1800 and 3600 r.p.m. are obtainable on the shaft. The unit has an overall height of 25 in. It can be provided with the following attachments:—4 x 1 in. wire scratch brush; 6 x 1 in. buff wheel; handleless clamp spindle; sandpaper disc clamp spindle; $\frac{1}{4}$ in. chuck; Jiffy sanding wheel; off-set angle head, and a 6 x 1 in. grinding wheel.

Pneumatic Riveting Hammer.

The Cleveland Pneumatic Tool Co., of Cleveland, Ohio, U.S.A., now offer a well-balanced pneumatic riveting hammer, known as the "Cleco."



The chief feature of the hammer is the main valve, on which depends the successful operation of the tool. The valve is tubular in form, the piston passing through it at each stroke. The valve is actuated by live air in both directions to ensure a uniform and steady action. It is short, light in weight, and has solid walls, free from port holes. At the lower end it is reinforced as a protection against piston slap. Pistons of different lengths may be used without detriment to the tube. A cushion chamber is provided in the rear end of the valve block integral with the valve block, and in alignment with the valve and cylinder. It is said to absorb all shock on the return stroke of the piston.

An air reservoir is provided between the outer walls of the valve block and the inner bore of the handle. This forms a "power pocket," in which the air is stored up and discharged on the piston at the beginning of each stroke, thus increasing the speed and force of the blow.

A safety lock holds the handle in the cylinder and is so constructed that easy and close adjustments may be made as the hammer becomes worn in service. It consists of a locking ring with teeth in the upper side to engage similar teeth in the lower edge of the handle, together with keyways cut in the inner side to engage keyways in the cylinder. A spring clip holds the ring and cylinder together, and further provides an outlet for exhaust air.

The balanced throttle valve is operated by a lever which has reasonably free action before engaging the valve. The valve operates within a steel sleeve seated in a recess provided in the handle. Both of these are hardened and ground in position. The valve action is said to be smooth and even and to provide a fine regulation of the air supply.

Improved Grinding Wheel.

Concentricity of the arbour hole with the grinding face is claimed to be a feature positively assured in a line of internal grinding wheels offered by the Carborundum Co., of Niagara Falls, N.Y., U.S.A. The arbour hole itself is formed within very close limits of accuracy, so that the operator can obtain a proper fit on the spindle. The wheels are uniform in both diameter and thickness.

The abrasive structure is such that a free, clean, fast cutting wheel which holds its edges and produces true holes without bell mouths is claimed. Proper grits and grades for various classes of internal work are available.

The wheel is particularly intended for use on automatic and semi-automatic machines of recent design.

Electric Time-Delay Push-Button Switch.

In order to prevent the cutting out of motors controlled by a magnetic starter when there is only a brief power disturbance, the General Electric Co., of Schenectady, N.Y., U.S.A., have introduced a time-delay push-button station.

This device is for use with standard magnetic starters, and it is not necessary to add time delay attachments to the starters themselves.

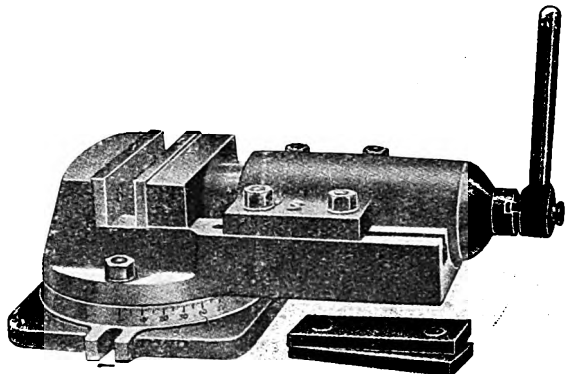
When power fails, the magnetic starter will drop out, but will close again upon the return of the voltage by the push-button unless the time for which the station is set is exceeded. In that case the start button must be pressed to energise the magnetic starter and so restart the motor.

In operation the depression of the start button closes the pilot circuit of the magnetic starter and also the circuit of a coil in the push button station. This causes a solenoid plunger to rise, thereby closing spring attached contacts at the bottom of the plunger. When the voltage drops sufficiently to permit the solenoid to release the plunger the latter starts to fall, but is retarded by a rack geared to a pendulum. The device can be adjusted to a maximum of $1\frac{1}{2}$ seconds. If the power does not return before that time expires, the contacts will open, and both the solenoid and the magnetic starter will be disconnected until the start button is again pushed. Pressing the top button stops the motor instantly, as the plunger falls without interruption.

New Machine Vyce.

The A.S. Vyce Co., Sumner-road, West Croydon, are introducing a new machine vyce available in four sizes, the smallest having jaws 4 in. wide and opening $3\frac{1}{8}$ in., and the largest jaws $6\frac{1}{2}$ in. wide and opening $6\frac{1}{4}$ in. Vyces of each size can be had also with solid bases.

The main casting carrying the fixed jaw is planed and tee-slotted, and has a semi-circular recess to take a cast iron barrel piece which holds the circular stem carrying the moving jaw. The barrel has side lugs, by means of which, together with the tee-slots, it can be bolted to the main casting on



machined faces. The screw is totally enclosed and embedded in grease. The tightening handle is arranged to ratchet so that the jaw may be tightened to the full extent without removing the handle or using spanners. The handle is of steel, and the clutch piece of hardened steel.

Two sets of jaws are provided, hard and soft, and the swivel base is graduated in degrees to facilitate setting-up. All surfaces over which movement takes place are machined. It is claimed that side movement or lift of the jaws is impossible, while another claim is for small movement of the jaw, combined with extra large opening. The vyce mechanism is very simple, so that nothing practically can get out of order.

Motor Delivery Vehicles

Sydney

The Associated Equipment Co. (Australia) Pty. Ltd., of 127 William-street, Sydney, are agents for the Associated Daimler commercial motor vehicles, and have compiled notes on the running costs in Australia based on 200 working days a year. The chassis is fitted with grease gun lubrication throughout. A comprehensive six months' guarantee is given with every chassis.

Cheneys (Australia) Ltd., of 101-05 William-street, Sydney, are showing light delivery Morris trucks designed and built by Morris Commercial Cars Ltd., purely for the Australian market. A feature of the sales of Morris cars is that the purchaser is handed a service card, on which is indicated the name of the dealer in his district responsible for rendering service, and at the end of 1000 miles' running the dealer overhauls, inspects, and generally tightens up the chassis free of all charges to the owner. Any of the simple adjustments that require some degree of technical experience are also made free of charge at Morris stations.

Mr. H. W. Crouch, of 26-28 Wentworth-avenue, Sydney, is the N.S.W. distributor of the Federal trucks, the sizes of which range from the small one-ton to the 7½-ton model. The "Federal Scout" is a one-ton truck built for delivery purposes. The four cylinders of the motor are cast integral with the crank case for increased strength, and fuel economy is also achieved. The engine is protected by triple seal, air cleanser, oil filter, and petrol strainer. The vehicles are fitted with pneumatic cord tyres, and a feature is the attention given to the comfort of the driver. Big, deep cushions and seat backs with curtains operating window fashion are noticeable. A short turning radius is another noteworthy point about these lorries.

Dalgety & Co. Ltd., of 163-65 William-street, Sydney, are agents for the Bean truck, the 25-30 cwt. vehicle being specially made for delivery purposes. The trucks are made to stand up to hard service, and have reserve power to pull through on rough roads. The vehicles are fully equipped, including a complete kit of tools and instruction book. The brakes have exceptionally large drums on the rear axle and are powerful in action. The engine is 14 h.p. R.A.C. rating, and has interchangeable valves, roller tappets, driven by silent chain. The 12-volt electric lighting and starting system is complete with head and tail lights, battery and electric horn.

The same firm are agents for the White trucks. The one-ton model is given an allowable load, including body, of one ton 16 cwt. Standard head and tail lights are provided, and there is also a six-volt electric starting and lighting equipment. The lubrication is a combination of gravity and splash systems, and the engine is water cooled by centrifugal pump. The chassis equipment includes front tenders, running boards, toe boards, electric horn, instrument box, petrol tank, spare rim, and complete set of tools, including jack.

Dennis Truck Sales Ltd., of 133 William-street, Sydney, are agents for Dennis Bros. Ltd., England, the originators of the worm gear, an invention that has given such an impetus to the motor industry throughout the world. Pneumatic tyres are optional wheel equipment, and the chassis has been

constructed to withstand the effects of shock and vibration when running continuously over indifferent road surfaces with solid-tyred wheels. The driver's duties in looking after the chassis are rendered as light as possible, gun-grease lubrication being provided throughout the chassis. In addition to first costs, running costs have been the subject of consideration, and, with a view to improving petrol consumption, a four-speed forward gear box has been adopted. The running speed of the lorry is 23-25 miles an hour, but 33 miles an hour may be obtained on the level with a full load.

Knight Motors (N.S.W.) Ltd., of 136 Castlereagh-street, Sydney, are showing the Willys-Knight six-cylinder motor trucks, of 1½ ton, 2 ton, and 2½-3 ton capacity. A feature of the engines is that carbon cleaning is eliminated. There are no valves to adjust, grind or replace. Economical lubrication is achieved by the force feed system automatically controlled by the engine speed and throttle opening. The vehicles are equipped with four-wheel brakes. The running costs are said to be low, and owing to the construction of the engine, lay-ups are infrequent, and costs incidental to valve repairs comparatively small.

Leyland Motors Ltd., whose head office is at 24 Grosvenor-street, Sydney, have established their own assembly plants in Sydney, Melbourne and Brisbane. The vehicles are manufactured in Leyland, Lancashire, and there are agencies in almost every country in the world. Lorries are fitted with special bodies for any class of work, and features are freedom from breakdowns and economy in upkeep.

Overland Sydney Ltd., of 136 Castlereagh-street, Sydney, are showing a series of Whippet light delivery commercial vehicles. No. 1 station utility has a carrying capacity of 10 cwt. The front portion is similar to a single-seater car, and is fitted with two doors. The driving seat accommodates three. The platform tray at the rear is 4 ft. 6 in. long by 4 ft. wide, and the sides are 18 in. deep with a depth of 14 in. at the rear, which is hinged to drop down. No. 3 is similar in build to a Whippet car, accommodating three people. The length of the carrying space is 4 ft., width 3 ft. 10 in., and the height 3 ft. 6 in. The body can be converted for commercial purposes. The carrying capacity is 10 cwt. No. 5 is somewhat similar, and the type of body can be used for any class of goods needing protection from the weather.

The Overland Crossley is a 25-cwt. truck, made in England, equipped with a standard Overland engine, complete with starting motor and generator. The new steering gear is of the worm and sector type, having a low ratio of 11½ to 1, enabling the truck to be steered like a passenger car. Being light in operation, it permits of unusually easy manoeuvring in awkward places.

Reo Motors Ltd., of 171-75 William-street, Sydney, recommend the "Speed Waggon Junior" for light delivery purposes, and also the one-ton lorry. Advantages in favour of the firstmentioned vehicle are that it parks easily, and is smooth running. The loading space behind the driver's seat is approximately 93 cubic feet, and the rear is enclosed with two full-length doors, each fitted with plate glass windows for driver's convenience and equipped with locks. An adjustable one-piece windshield and ad-

justable cowl ventilator and cowl lights are part of the equipment. The top covering extends over the side as in cars, and there are two front doors, as well as adjustable disappearing windows and convenient door lifts.

Tabrett's Motors Ltd., of 67 Parramatta-road, Camperdown, are agents for the Stewart Motors Corporation, Buffalo, N.Y., makers of trucks ranging to six capacities, $\frac{1}{2}$ to 4 ton. The "Buddy" lorry is made in two sizes, $\frac{1}{2}$ -ton and one-ton, and is built for light deliveries. The lorries are equipped with six-cylinder 40-h.p. Continental motors, and the makers claim that the machines are free from vibration, and economical in the consumption of petrol. All vehicles are equipped with electric lights and starter, speedometer, oil gauge, and ammeter mounted on the dash under a glass panel, Gemmer steering gear, and large breaks as well as Timken bearing axles.

Thornycroft (Australia) Ltd., of 169 William-street, Sydney, supply 30 cwt. type "A1" chassis fitted with suitable body. The four cylinders are of the monoble type with detachable head, while the steering gear is of worm and wheel pattern, and the vehicle can be turned without reversing on a road 43 ft. 6 in. wide. The chrome steel springs are of suitable length for easy riding. The front suspension bracket is fitted with a rubber block to minimise the transmission of vibration to the frame. A mechanically operated tyre pump can be supplied if desired, and provision is made to supply an electric starter, which is bolted direct to the engine.

Melbourne

The British Bean.—A British truck which has succeeded well in Australia is the Bean. It is specially useful where a vehicle is needed between the light and the heavy class. Two capacities are made by this company, viz.: 25-30 cwt., and 30-35 cwt. The distributors for Victoria and Riverina, the Barlow Motors Pty. Ltd., of 20-28 Latrobe-street, Melbourne, point to many users who have given repeat orders as evidence of their value.

The 30 cwt. lorry has proved suitable for general haulage. The floor space is 9 ft. by 9 ft. 6 in., and the loading line is 40 in. from the ground. The frame is of pressed steel, deep channel section, and lends itself to any type of body. The Bean organisation have agents in every town of importance, carrying spares for the convenience of clients. A competent road engineer is on the staff to give service and advice freely on all transport problems to prospective buyers or users.

Brockway Trucks.—Long life, low fuel costs, constant service, are what the truck purchaser demands. So say the Brockway people, and they have endeavoured to fulfil these requirements. The agents, Ronaldson Bros. & Tippet Pty. Ltd., of Ballarat and Melbourne, are one of the largest makers of internal combustion engines in this country. Naturally they wished to handle a line which would live up to their own established reputation, and in the Brockway trucks they believe they have secured this.

These vehicles, of American manufacture, have a fine record for reliability under severe conditions. Motor trucks must stand up to hard usage, and not infrequently to neglect on the part of drivers. They have to undertake difficult classes of haulage over roadway surfaces that often can scarcely be called roadways at all. It is claimed that Brockway vehicles have operated successfully in country areas where transportation would almost seem an impossibility.

The chassis is of exceptionally solid construction. Only the best materials are used throughout. The aim has been to give great strength with flexibility. Trucks and buses are subjected to a rigorous test over hard proving grounds before they leave the works. No machine is passed for export until such



trials have been honestly met at all points. The power unit is the Wisconsin engine, which possesses a well-balanced combination of power and speed. The lubrication system is on the soundest basis.

The range of trucks offered is complete. It covers every type, from the dependable and economical speed truck to the powerful heavy duty models. In all thirty different models are listed, suitable for all possible transportation requirements.

The illustration is of a 4-ton Brockway truck supplied to the Vacuum Oil Co. Pty. Ltd.

The Morris Six-wheeler.—For use on rough country roads in Australia, perhaps no truck has received more attention lately than the Morris six-wheeler. In recent tests carried out over the worst possible ground in Sydney this British-built vehicle impressed a gathering of experts by the easy way it negotiated sandhills, bogs, and seemingly inaccessible places.

Without the least difficulty the six-wheeler climbed a hill a hundred feet high, the grade being from one in six to one in eight, while the entire surface was covered with thick scrub. A bog some half-a-mile across presented no difficulty whatever, the truck going across speedily and safely, climbing out of it and up the loose, sandy sides. It surmounted steep banks through shifting black soil, carrying a load of 25 cwt. and half a dozen heavy men. The next test was a drop down a steep 8 ft. bank having a grade of one in two, maintaining its balance while almost standing on end. Although the front wheels sank in a small creek to the axles, it was then backed half-way up the slope, and again driven out without trouble.

During these tests it is stated that the mechanism worked smoothly throughout, without the jerking or jarring which would have accompanied the task in the ordinary four-wheeled truck. The Morris chain-track was fitted to the four back wheels, giving a grip which enables the truck to move surely over greasy patches of country. These tracks can be attached or removed in a few moments. Even without this aid, however, it seemed the truck could tackle the most difficult roads, or no roads at all.

The rigid frame six-wheeler has many points of advantage over the usual type of four-wheeled vehicle. The four rear wheels take their share of the drive and load all the time. Both of the back axles can move independently of each other and of the frame. Each wheel on one axle may be at least 6 in. higher than the corresponding wheel on the

same axle. Again, either of the rear axles can be more than 8 in. above the other, yet the frame remains in its normal position relative to the ground during these movements. The weight being evenly distributed over the six wheels, there is less strain and less wear and tear on the individual tyres.



Cheney's (Australia) Ltd., with branches in all States, are distributors of the Morris trucks, the particular kind referred to being a two-ton model. The engine is of 15.9 h.p., with a speed of 45 miles an hour on good surfaces, fully loaded. There is no need to mention the fact that the truck is of the strongest construction and workmanship.

The illustration shown is of a Morris six-wheeler "at sea." This was an army unit in China, and gives a striking example of work under difficulties.

The "Reo" Waggon. — A number of speed waggon are produced by the Reo Motor Car Co., of Lansing, Mich., U.S.A., ranging from the one-tonner to the heavy duty 2-3 ton type. There is also an extremely useful half-ton "Speed Waegon Junior." All have standard equipment of electric light, self-starter, and complete accessories.

For delivery purposes, where an average load is required, the 1½ ton waggon has been found a most useful vehicle. The frame is only "thigh-high," making loading easy, and every detail for comfort and economy has been studied. The six-cylinder engine makes for smooth running and the idea has been to make a truck that will work speedily, holding its own in passenger traffic, and rendering handling of goods quick and economical. As might be expected, brakes are a big feature, the four-wheel, internal expanding type being fitted.

The agents are the Queen's Bridge Motors Pty. Ltd., of Queen's Bridge, Melbourne.

Motor Truck Saves a Business

"My business was saved by this truck," said a country storekeeper when asked how motor delivery compared with his old horse-drawn method. This sounded like an exaggeration until the explanation was given, when the facts appeared undoubted.

Situated in a hilly countryside, this retailer was faced with a steep stretch of haulage from the railway, and his customers were widely distributed over a large area. A larger town some fifteen miles distant was able to compete with him on account of a more favourable freight rate, and buyers who were quite willing to deal with him could not pay the

prices he was obliged to charge. He was forced to cut his figures in some way or abandon the business.

His horse-drawn waggon took so long to reach the outlying farms that one or two loads daily were possible only in good weather, rendering his delivery service slow and unreliable. Several additional horses were needed owing to the heavy grades and long distances involved. After drawing a few loads from the railway to his store, the animals needed a spell before again taking the road.

After long consideration of the problem, he realised that motor transport was his only hope. Provided a truck could stand up to the work with a fair allowance for repairs and upkeep, the additional speed should more than compensate for the first outlay. He put his case before the service department of a reputable motor truck organisation, whose representative paid him a visit.

He was astonished, he explained, at the definite facts and figures this man was able to produce. Not only did he provide a summary of running costs per mile, but he showed the precise mileage per day which the storekeeper might reasonably expect from a truck suited to his needs, with allowances for the time occupied in loading and unloading. He demonstrated that although the roads were rough and grades heavy, the truck would probably cost but little for spares and renewals. Our storekeeper was surprised to find that this concern were not in the least anxious to sell him a motor vehicle until it was certain that it was to his advantage to use it. It was the policy of the company to decline a sale in the rare cases where horse transport was more economical.

He approached the purchase with fear and trembling. He could not afford to take risks in the state of his finances. But in actual practice the motor truck did far more than he had ever hoped. The new purchase made light of the dreaded railway trip. The uphill run, which knocked up the horses after two or three loads, troubled the truck not in the least. When the last package was delivered into the store the work of distribution could be immediately tackled, without the necessity of unharnessing and feeding the horses.

It was possible to undertake a ten-mile run to distant farms, and still find time to deliver to a sawmill whose business he had previously found it necessary to decline. Most of the mill orders were required to be handled with despatch, and the horses were too slow to enable him to accept them. Telephone orders, given conditionally upon prompt delivery, presented no difficulty. Within a week, it was declared, the value of motor transport was placed beyond doubt.

The question of the cost per mile per ton as compared with the horse-drawn vehicles was of no importance whatever. It was the extra speed and hauling power which made the motor far and away more economical. It brought within practical reach a much greater area of country. The truck multiplied by six or seven times the territory which could be worked efficiently. Moreover it was possible to guarantee the time of delivery almost to the minute.

There are few stores to which the above facts would not apply, in a greater or less degree. The motor truck is not subject to climatical limitations. Rain does not retard it to any appreciable extent, and it requires but a fraction of the time for feeding and recuperation. It will travel mile after mile without nursing or spells, and asks no sympathetic treatment. Breakdowns are rare, and so perfect is the modern type of motor that these are usually due to some neglect. The fuel used is always at hand, of a standard price, and not subject to deterioration. No store handling heavy materials can afford to overlook the advantages of motor transport.

Industrial Arbitration

That industrial arbitration has not met with the success which its originators hoped is a fact accepted by all shades of public opinion, employers and employers alike. Indeed, Labour itself is now openly questioning whether it would not be better to scrap the whole of the arbitration machinery and allow the parties concerned to settle their differences between themselves without the intervention of the court. Such a proposal would not even have been considered a short time ago, but events have brought a distinct change of opinion.

That interest in the question is growing was shown by the large attendance at the King's Hall, Sydney, on February 2, when Professor A. H. Torker, Chair of Economics, Canterbury College, New Zealand, lectured on "The Effects of the Arbitration System."

In the course of his address, the lecturer said that the three main factors in the business of the community were production, distribution, and consumption. One of the greatest living economic authorities had said that the best organisation was that which produced the most, because the greater the production the greater the wealth. Regularity of production and distribution were of prime importance.

Did industrial arbitration secure the greatest possible regularity, or did it cause a break? Industrial arbitration was only one link in the chain.

He was interested in the question of industrial arbitration because of the depression that existed in New Zealand. Industrial arbitration had been blamed for the depression. Farmers had found that prices of their products had fallen by 20 per cent., while their costs of production had not fallen. The prices were world prices, while the costs were local costs. Not more than one-quarter per cent. of the people benefited by awards. One-half of industry was covered by the courts, while the other half was not touched. Thus they could compare the industries which had awards and those which had none. Almost all those working under awards were protected and could pass on the costs. In those cases arbitration did not hurt, and did not benefit. The farmers, however, could buy less of the products of the sheltered industries. Labour was drawn to the protected industries, which had a restricted output, and the unemployment amounted to 15 per cent. It was openly said that the conditions were due to arbitration, and the matter had been given a great deal of attention.

It was hoped that a direct meeting between employers and employees would lead to a better understanding. Thirty years ago arbitration had been introduced in New Zealand as an experiment. Parliament was told that if it failed they could repeal it. But it had never been completely surveyed.

Prior to the legalising of arbitration, prices had been falling, but co-incident with the coming of arbitration prices began to rise. When prices were increasing the country could stand arbitration, and it was only when prices were falling that attention was directed to it.

It was true that for ten years after arbitration was brought in there had been no strikes in New Zealand, and people came from other countries to see the land that had no strikes. They looked it over, but none copied it. For thirty years arbitration had been in force in New Zealand and Australia, but it had not been adopted by any other country. If competent authorities in other countries spoke plainly, they would condemn it.

Peace in industry had certainly been secured for the first ten years after arbitration, but whether of itself or because of the better conditions, he did not know.

Later there were strikes in plenty. The most militant unions were those that were the most strongly protected.

Ninety per cent. of the troubles were caused by six per cent. of the trades unions. They came to the Court and obeyed the award if it suited them, and broke it if it did not suit.

The employer, however, had to obey the awards.

In Melbourne a committee had reviewed arbitration. The coal industry was the most troubled in the United States of America, and was not working under an award. The industry in Australia was working under an award, yet, comparing the number of days per 1000 tons of coal over a period of ten years, there were more strikes in the coal industry in Australia than in the United States.

In New Zealand there had been no real rise in wages since 1900, when arbitration came into force. As fast as wages had risen there had been a rise in prices. In U.S.A. there had been a decided rise in wages, the purchasing power of money having increased as wages went up. In other words, wages had risen where they were not regulated, and had not risen where they were regulated.

Where wages were regulated the minimum became the standard wage. The reason given for an increased wage was that prices had risen. All that begged the question, because it failed to realise that the wage rate was the effect and not the cause, and was paid according to what a man consumed and not what he produced.

Wages were subject to the laws of supply and demand, the same as other commodities. If wages were too high, there was unemployment, and if too low labour was not available.

Over-regulation was one of the worst features of arbitration since it tended to stagnation. Progress was nipped in the bud, and experiments were prevented, and there was little, if any, reward for ability.

The greatest cause of inequality of wealth was the variation in human ability. Regulation of wages was a direct incentive to go slow. People got safety at the cost of progress.

The Court tended to keep the parties apart instead of bringing them together. Industrial peace was decreased by arbitration machinery. Each part of industry should solve its own difficulties instead of calling in the aid of the Court, which knew nothing of the industry. If the Court controlled wages it should control distribution, and could not logically stop short of socialisation. The attempt to control distribution meant decreased production. The Russian standard of living fell as control grew, and rose as control slackened.

Electrical Notes from New Zealand

(Specially contributed.)

Wanganui-Rangitikei Power Board has arranged to carry out a series of tests with hot-water cisterns for cowsheds. The dairy inspectors are interested in the most efficient means of providing hot water for cleaning milking plants, and will co-operate in the tests to be made.

Waitomo Power Board's November report shows the following revenue receipts:—Light and power, £967; sales of material, £86; installations, £903; sundries, £39; total, £1995. Total number of consumers, 1108, including: motors, 143; water-heaters, 111; ranges, 39; pumps, 4; washing machines, 3.

Cambridge Power Board will make a display of electrical apparatus at the forthcoming Waikato Central Agricultural Association's Show. The water-heater installed by the board at Leamington Domain, supplying boiling water for visitors, is proving an unqualified success. The board reports a satisfactory increase of business during the last month, the total number of consumers being now 1125.

Taranaki Power Board reported at the January meeting that the number of consumers totalled 1432; 17 more were ready for connection and 100 further authorities were signed. For the previous month the units generated totalled 425,400, the heaviest demand being 864 kw., which refers to the board's own system and does not include power taken from New Plymouth, which at times has reached 1000 k.w.

Central Power Board (Hamilton) reports that the 11,000-volt line has been completed as far as Te Kauwhata and livened up, also considerable construction work is being done in that area. Connections to the board's mains show the following totals:—Lighting, 27001; heating, 934; milking motors, 747; separator motors, 12; non-milking motors, 137; water pumps, 212; water-heaters, 670; electric ranges, 126.

Dannevirke Power Board reports that everything is in train for raising the loan of £8000, for which the Minister of Finance has authorised interest at 6 per cent. The total number of connections to the board's mains is given as 1775, while the applications on hand number 2357. A good deal of additional material is required, and it is considered essential that a fair sum of loan money be kept available for extensions.

The first of the two deputations decided upon by the conference which discussed the probable power shortage in Canterbury and North Otago waited on the Minister of Finance (Mr. W. Downie Stewart) at Timaru, early in January, and received a satisfactory reply. The Minister said the Government was fully alive to the requirements of the district and would use every endeavour to have the scheme completed before Lake Coleridge station became overtaxed.

The demand for electricity in Grey Power Board's area is now approaching the capacity of the existing steam plant, and the engineer has put forward three alternative suggestions:—(1) Instal another steam turbine unit with boiler and auxiliaries; (2) buy power in bulk at Government rates, build a transmission line to Dobson, with transformers and switchgear, running the steam plant in parallel with

the bulk supply; (3) the board to construct a hydro-electric plant at one of the sites available, using the present steam plant as standby or closing it down altogether, if found to be not required.

At the suggestion of the Otamatea County Council, the Hobson Power Board has decided to convene a conference of all local bodies in North Auckland to discuss a scheme, submitted by Mr. L. Mandeno, for a hydro-electric development at Omapere Lake to provide power for the northern district. It is proposed that the Lake plant should be used when supply from the Wairua Falls plant is short. The board's chairman suggested that an engineer's report should be obtained as to the cost of a scheme to supply Dargaville borough and eventually take in outside areas.

Poverty Bay Power Board's trading activities have again led to discussion. The chairman states that the action of the board in handling electrical appliances had greatly stimulated interest in domestic electrical services, while sales had been increased very satisfactorily as a result of cooking demonstrations.

The question of whether the board should extend its operations to include house-wiring has been raised, and objections put forward on the ground that this would be encroaching too far on the operations of private traders. The matter is under consideration by the finance committee, which will make a recommendation at an early date.

North Canterbury Power Board's proposal to raise a loan of £160,000 has been carried by a substantial majority of the ratepayers. Of the total amount, the sum of £49,850 represents the purchase of existing equipment; in fact, represents only an exchange from the Rangiora, Kowai and Eyre counties to the board, the board taking over the counties' existing liabilities. Additional construction work is estimated to cost £72,200. The remainder of the loan is to be devoted to the purchase of the Public Works Department's lines, the cost of raising loan and other charges, advances to consumers and an amount for the further development of the power supply of the district.

Due to an exceptionally long period without rain, the output from the Mangahao hydro-electric station has fallen considerably during the last two months, making it necessary for some of the power boards supplied from this source to impose restrictions upon the use of current. The dam has not been full since December 18, and since then it has been falling steadily at the rate of four or five inches a day.

Mangahao station is practically unable to carry any load other than the minimum flow coming in from the river permitted, and the Public Works Department has to depend upon auxiliary plants to carry a great deal of the load. In Wellington city no restrictions upon the use of power have been imposed, nor have consumers been asked to economise in any way, since the Evans Bay steam generating station is able to take care of the city demands, while surplus power is being fed back to the Government lines.

Designed to generate 1,600,000 units a week, Mangahao was carrying over two million units in the third year of operation. The substantial increase over what was anticipated in the demand for power is causing the Government to speed up construction on the Waikaremoana hydro scheme so that a portion of the load may be taken over by that plant as early as possible.

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VOL. XLIII. No. 4

APRIL 6, 1928

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LONDON—63 Ludgate Hill, E.C.4.

NEW ZEALAND REPRESENTATIVE—Mr. C. W. Carroll, 25 Panama Street, Wellington.

Subscription—10/- per annum.

For 30/- per Annum we will supply (in addition to above) The Ironmonger (London), weekly, and a copy of The Ironmonger Diary. All Post Free. Single copies 1/- each. Subscriptions payable in advance.

Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

Buyers on Commission.

Mr. J. F. Cubbon, of 82 Victoria-street, Westminster, London S.W.1, whose advertisement appears on another page, is a buyer and shipper of all kinds of civil, mechanical and electrical engineering plant and equipment, metals, tools, builders' and plumbers' hardware and other related lines. He buys on commission only and submits original invoices showing all deductions and rebates. Already established in India, he is now seeking business from Australia and New Zealand.

Premises Enlarged.

The Efco Manufacturing Co. Ltd., of Prince's Highway, Arncliffe, Sydney, have recently completed additions to their premises, practically doubling their floor space, which now covers 3000 ft. The business was established by E. Facer & Co., and was later turned into a limited company, but without any public money. Builders' hardware of different kinds is turned out by the firm.

Limestone for Flux.

For their iron and steel works at Newcastle, New South Wales, the Broken Hill Proprietary Co. Ltd. require a good deal of limestone, which has hitherto been obtained from Devonport, in Tasmania. It is now announced that a new contract with a currency of ten years has been entered into between the company and the local Marine Board. Of late the trade has been very slack owing to the depression in the iron and steel industry. Before long, however, it is expected that the demand will exceed the previous peak period, which represented 150,000 tons for the year.

Steel Pipe Manufacture.

An important expansion of the iron and steel industry is shortly to be made at Newcastle, New South Wales with the erection of a plant by Stewarts & Lloyds (Aust.) Ltd. for the manufacture of steel tubes and pipes. The cost of this will be in the vicinity of £1,000,000. The process of production, it is stated, will be on the lines of the latest development in Britain and America, and entirely new to Australia. The pipes will be constructed on the lap-welded principle, which means that flat steel

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sheets are bent into cylindrical form, and the overlapping edges are then heated until the metal is soft. While hot, the metal is drawn through a machine, which compresses it and makes the sealed joint.

Stewarts & Lloyds Ltd., the parent company, have their headquarters in Glasgow, with branch works at Birmingham and elsewhere. Some years ago their Australian company was registered to handle their business in the Commonwealth. Last year it was intimated that a South African branch of the company had united with the Union Steel Corporation (South Africa) Ltd., and were to erect at Vereeniging new works for the production of steel tubes and other products.

Foreign Exchanges

Foreign rates of exchange in London for cable transfer on the centres and dates indicated, compare as follows:—

Par.	—	—	Mar. 22	Mar. 26	Mar. 29	Apr. 2
4.886	New York	Dols to £	4.884	4.881	4.887 ³ / ₄	4.881
4.866	Montreal	Dols to £	4.874	4.871	4.874	4.871
25.225	Paris	Fros to £	124.02	124.02	124.02	124.02
35.000	Brussels . .	Bels to £	35.02	34.99	34.97	34.98
25.225	Rome	Lire to £	92.40	92.40	92.40	92.40
12.107	Amsterdam	Florin to £	12.12	12.11	12.12	12.12
12.107	Batavia . .	Gul to £	12.14	12.13	12.13	12.13
18.159	Stockholm	Kron to £	18.19	18.18	18.19	18.18
18.159	Oslo	Kron to £	18.29	18.26	18.29	18.28
18.159	Copenhagen	Kron to £	18.21	18.22	18.22	18.21
20.43	Berlin	Gmks to £	20.41	20.42	20.41	20.41
24	Calcutta . .	Pento rup	18	18	18	18
24.58	Yokohama	Pento yen	23 ¹ / ₂	23 ¹ / ₂	23 ¹ / ₂	23 ¹ / ₂
*	Hongkong	Pen to dol	24 ¹ / ₂	24 ¹ / ₂	24 ¹ / ₂	24 ¹ / ₂

* Par depends on rise and fall in price of Silver.

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Editorial

Pillage of Cargo.

So far as the pillage of cargo is concerned Australian ports seem to hold an unhappy pre-eminence. Recent investigations go to show that against an average loss from this cause on European goods of 0.8d. per ton at Kobe, 1.0d. at Singapore, 1.2d. at Yokohama, 1.5d. at Shanghai and 3.3d. at Hong-kong, the Australian average losses on similar goods range from 1.7d. at Adelaide through 2.2d. at Melbourne, and 4.8d. at Sydney, to 15.9d. at Brisbane. These figures represent the average losses per ton through pillage on all goods (not pillageable goods only) shipped from British and Continental markets of supply to the ports mentioned. As will be seen, the eastern Commonwealth ports especially come out very badly in the comparison.

At practically every conference of our Chambers of Commerce the matter comes up for discussion. Cases are cited and resolutions passed, but the thing goes on. The figures quoted suggest that most of the damage is done or loss sustained at Australian ports, although in some instances the evidence goes to show that the packages are really broached before they reach Australia, if not before they leave Europe. When in lieu of the cutlery which it ought to contain a hardware merchant finds a case care-fully weighted with brickbats or other material of a nature not common to Australia, he is justified in inferring that the evil was done elsewhere. Occasionally that is the position. But if the figures given are approximately correct it is obvious, as already stated, that the greater part of the thieving is done at our own doors. The ports which suffer least are just the ports which have done most to check the reprehensible practice.

In London, some years ago, those interested practically in the trade of Australia and New Zealand appointed a sub-committee of their number to look into the whole matter and report. The outcome was a series of recommendations, the general adoption of which should tend to minimise the trouble. For one thing, it was suggested that the London committee should be continued to consider from time to time any information brought before it by ship-owners, merchants and others in connection with the whole subject. Not only so, but in order to secure continuity in this direction and co-operation with similar interests in Australia and New Zealand, it

was recommended that similar committees should be set up in these two dominions, consisting, as in the case of the London committee, of representatives of shipowners, merchants, and Chambers of Commerce, and where possible of Protection and Indemnity Associations. So far as London is concerned this suggestion has been adopted and steps have been taken—so it is said—to give effect to it in Australia and New Zealand. The report concludes in these terms:—"While from the information before us it is quite apparent that the bulk of the claims paid result from pillage or thefts which take place overseas, nevertheless, we feel justified in saying that pillage does take place either before the cargo is delivered to the shipping company, at the shipping ports, or on board the steamer. We have been informed that merchants who have adopted the use of metal seals on the joints of their case-boards have found their losses from pillage greatly reduced, and we understand that certain firms regularly make use of such seals."

Industrial Relations.

An article entitled "The New Spirit in Industry" was recently contributed to the industrial supplement of "The Manchester Guardian" by Sir Charles W. Macara. Here is the opening paragraph:—"As one who has devoted the greater part of his life to the establishment of better relations between Capital and Labour, I am rejoiced to see how public opinion everywhere is tending in the direction of co-operation between employers and employed. All classes are coming to see how futile and wasteful it is to continue the bad old system of savagely or sullenly fighting out a matter in dispute instead of getting around a table and finding a way of composing differences with the minimum of loss to either side. The logic of recent events is no doubt doing a good deal to force both employer and employed into a realisation of the facts, but I am inclined to think also that there is a better spirit manifesting itself, and greater reasonableness is being shown among those who have the duty of conducting negotiations in industrial disputes. A wider outlook is being taken, and more regard is being paid to the great things at stake in trade quarrels."

The writer goes on to justify his view that a better spirit is abroad, although he has to admit that a good deal of ignorance and prejudice and bad feeling still obtain. He cites in support of his optimism a resolution passed at the annual conference of the United Textile Factory Workers' Association: "That before either side in a dispute, employers or workpeople can serve notice for a lockout or a strike, the Minister of Labour shall have power to set up a public Court of Inquiry into the causes of the dispute, the Court to have authority to call any necessary evidence and make recommendations. Such recommendations, along with the evidence on which they are based, to be placed be-

fore both parties to the dispute for their consideration." The time is opportune, the writer holds, for the promotion of this new spirit and no opportunity of so doing should be neglected. But he deprecates the intrusion of amateurs. "It is work for the best brains in Capital and Labour alone, and politicians and doctrinaires of all kinds must be kept at arm's length."

In this part of the world, unfortunately, the politician and the doctrinaire have over-run the industrial realm and are hindering, as we believe, the diffusion of the new spirit. The State has assumed the regulation of wages and the settlement of disputes. It has added to its domain what was to have been "a new province of law and order," but is, in fact, nothing of the kind. Disputes were never more frequent, and the way unwelcome decisions or "determinations" are evaded has become a by-word. Left to themselves, wage-earners might be reasonable and the better spirit have a chance. But the men they elect to the Parliaments as well as to office in the Trade Unions are too often of the doctrinaire or irreconcilable type, and so far from pouring in oil they sand the bearings. With honourable exceptions they foment suspicion and class hatred—seem to regard it as their mission so to do. The reservations and recriminations with which Political Labour became a critical part of Australia's industrial mission to America, and the carping, querulous manner in which it is now meeting the Prime Minister's overtures for a representative conference of employers and employed tell their own tale. One is forced to the conclusion that many leaders of Labour have no real knowledge of what the conduct of industry involves and no real desire to see peace prevail on the present basis. They wish to end and not to mend the "capitalistic" system, and would lightly tear down that which it has taken hundreds of years to build up. And in its place? The socialistic State with life regimented and "bossism" enthroned, where, as many believe, further progress would be endangered and human freedom invaded to the point of extinction. Employers may blanch at the contemplation of such a state of things, but the only way to prevent it is to cultivate the "new spirit" and disarm the mischief makers by treating with justice and generosity every person on the pay roll.

The Cash Order System

At the recent conference in Hobart of the Associated Chambers of Commerce of Australia, Mr. R. W. Knox, president of the Melbourne Chamber, moved—

"That this conference views with concern the increase in the cash order system of business, and urges the respective State Ministries to pass legislation which shall bring this system of trade under proper control."

Mr. Knox contended that cash orders encouraged spendthrift and extravagant ways of living. He thought that strict control should be exercised over the system.

Mr. G. A. Parkes, Sydney, seconding the motion, said the system was controversial throughout the Commonwealth. While many big retail firms did not accept cash orders they did not oppose them. The system induced people to spend more than they could afford, and some form of control was imperative.

Mr. T. Murdoch thought that control was unnecessary, as the system would eventually kill itself.

Sir William Lathlain (W.A.), while supporting the motion, did not think it went far enough. He said the system was iniquitous, and if allowed to grow would become a very serious menace to business. Western Australian traders would have nothing to do with cash orders.

Mr. R. H. Cummings (Brisbane) said the great evil in cash orders was the exorbitant rate of discount that retailers were coerced into paying.

Mr. Ralph strongly condemned the system, and thought that if given enough rope it would ultimately hang itself. Government control would only increase the menace.

Mr. Heritage said that in many cases retailers conducted their own cash order business.

Mr. Boyd wished to abolish cash orders. He moved that the words "Under proper control" be deleted, and the words "To an end" be inserted in their place.

Mr. Knox's motion was agreed to by an overwhelming majority.

Remarkable Radio Service

At a cost of over a million dollars, a unique radio system has been installed at the Statler Hotels in Boston, New York, Buffalo, Cleveland, Detroit and St. Louis. The principal of the Hotel Statler Co., Mr. E. M. Statler, determined to give his guests the benefits of the best radio service in their own rooms, and that absolutely free of extra charge. Mr. Kerr Parker, the company's consulting engineer, was requested to devise a system to meet certain requirements, one of which was that it must be unique in design and unlike anything of the kind already in use. This was done, and the first hotel to be served was that at Boston, then being erected. The results were so good, and the chorus of approval so hearty, that the system was at once extended to the other hotels belonging to the company, and that without disturbing the regular operations.

Some idea of the magnitude of the undertaking is gained from a study of the following list of materials used:—

- 6,378 miles of special wire and cable;
- 5,970,000 feet of rigid and flexible steel conduit;
- 152,860 terminals of various types (soldered);
- 2,640 steel distribution and terminal cabinets;
- 8,042 special bronze plates and receptacles;
- 6,552 radio programme selectors located in the guest rooms;
- 1,156 loud speakers of various types and sizes;
- 6,552 Special double head sets;
- 260 special radio detector and amplifier tubes in the apparatus located in the control rooms.

In order to have radio services available to all the guests in all the hotels of the series by the end of January last, a force of some two hundred skilled electricians was set to work, the electrical construction being carried out by McCarthy Bros. & Ford, of Buffalo. Only in the larger rooms and suites are loud speakers installed, but no room is without a head set.

Inquiry Column

During the month we have supplied answers to the inquiries indicated below. Firms with whom we have not already communicated who hold any agency connection with the firms, or handle any of the lines mentioned in this section, are invited to furnish us with particulars so that our lists may be complete.

TRADE INQUIRIES

Information Supplied.

Simonds' Saws.—Name and address of agent supplied.

Clyde Nail Co.—Name and address of agents supplied.

Le Page's Glue.—Name and address of agent supplied.

"Planet Junior" Implements.—Name and address of agents supplied.

Alexander Tennis Racquets.—Name and address of manufacturers supplied.

Hardy Patent Pick Co. Ltd., Sheffield.—Name and address of agents supplied.

Porcelain Enamelled Baths.—Names and addresses of makers supplied.

Turner, Day & Woolworth (axe handles).—Name and address of agent supplied.

Lucerne Renovators.—Name and address of makers in Melbourne supplied.

Corkscrew Steel Fencing Posts.—Name and address of Victorian agents supplied.

"Canadian Beauty" Electric Irons.—Name and address of Melbourne agents supplied.

John Wisden & Co. Ltd., London (tennis balls).—Name and address of agents supplied.

Reed Mfg. Co., Erie, Pa., U.S.A.—Name and address of Australian agent supplied.

H. Moore Ltd., Birmingham (Castors, etc.).—Name and address of agent supplied.

Cow-hair Felt in Sheets.—Name and address of firm in Melbourne able to furnish supplied.

"Zeolite" (used in connection with water softeners).—Name and address of firm handling supplied.

Carborundum Co., Niagara Falls, U.S.A., and Manchester, England (carborundum cloth).—Name and address of agents supplied.

Information Wanted.

Durant Recorder.—Name and address of agent wanted.

Morse Silent Chain Drive.—Name and address of agent wanted.

Waine's Splitting Wedges.—Name and address of agent wanted.

"Monaware".—Name and address of agent or manufacturer wanted.

"Union" Drills (British-made).—Name and address of agent wanted.

Pike Mfg. Co., Pike, N.H., U.S.A.—Name and address of resident agent in Australia wanted.

G.M.F. Mills for bruising maize and other grain.—Name and address of firm in Melbourne able to supply wanted.

Wolf Machine Co., 25 Union Square, New York ("Acme" cloth cutters).—Name and address of agents wanted.

Mast, Foos & Co., Springfield, Ohio, U.S.A. ("Pilot" brand lawn-mowers).—Name and address of agent wanted.

Aluminium Discs for Spinning (18 gauge).—Name and address of firm able to supply a quantity from spot stocks wanted.

LEGAL INQUIRIES

Both in Melbourne and Sydney we have made arrangements with lawyers of good standing in their profession to answer through this journal any legal queries addressed to us. Readers who meet with difficulties are requested to state these as clearly as possible.

A Question of Promissory Notes.

Assuming I owe a city firm some money, and, owing to lack of capital and a bad season, I have become slightly behind, but, if given time, I can come out all right. They have sent me four promissory notes, and, to state a case, I will say I owe £160, they sent them in the following order:—£70, March; £30, April; £40, May; £20, June; and assuming I could not pay the £70, I wrote and asked if they would accept terms as follows:—Four equal payments of £40, which would clear the debt in the time mentioned, assuming they accept terms of £40 per month, but send me four promissory notes for £40, and I do not want to sign them, and send my first £40 to them, is that quite satisfactory? What I want to know is, if I send the £40 per month, do I have to sign them and pay 8 per cent. interest as well. Should I sign them, do I send the money to them, or do they draw from my banking account?

A. Your creditors can dictate their own terms. They are not obliged to give you time. If you give promissory notes, you can make them payable at your bank, which is the simplest way.

Buying Through an Agent.

New Zealand subscribers (8/136) state the following case:—Brown & Co., of Christchurch, buy goods from Robinson & Co., of New York, through the latter's N.Z. agent, Jones, of Auckland. These goods are quoted by Jones at 80 per cent. off list, and the contract note (not signed) received by purchasers just after sale is set out as follows:—

Seller: Robinson & Co., New York.

Per agent: J. Jones, Auckland.

Goods at less 80 per cent.

Eleven months later Brown & Co. receive Robinson & Co's. invoices, and find the price charged therein 75 per cent. off list, which represents an extra cost to the purchasers of £18. Brown & Co. accepted Robinson and Co's. draft, but before doing so got the following promise from Jones:—"Absolutely guarantee adjustment as soon as reply received from New York."

A considerable time having elapsed since arrival of goods, without receiving any satisfaction from agent, can Brown & Co. sue the agent, Jones, for the amount of the overcharge, or is it necessary to take action against Robinson & Co.?

A.—We think Brown & Co. can sue the agent (Jones) on his promise. We do not think they can sue Robinson & Co.

Sundry Credits

By J. Knibb.

The English are a peculiar people. You must not call a man a mongrel or he will feel insulted. But if you call him an "Anglo-Saxon" or remind him of the remote ancestral races which populated the British Isles he is quite proud. Call him an "ignoramus" and he will get very vexed. Call him an "agnostic" and his bosom swells with pride. But Australians put it very coarsely when they call a man "a blanky ignorant cow."

* * * *

I quote the foregoing from a paper that comes into my hands. It is less than satisfying. The English are more than Anglo-Saxon—much more. Welcoming Alexandra to Britain from her home in Denmark, Tennyson writes, "For Saxon or Dane or Norman we, Teuton or Celt or whatever we be . . ." Very mixed, indeed, are the people of the British islands. John o' Groats was a Dutchman. In Australia, moreover, the blanky breed is less familiar than another bovine species. Applied to mankind "a fair cow" sounds the depths of our contempt.

* * * *

"Can two walk together except they be agreed?" asks the Good Book. The question came to mind when I saw an art furnishing company hold themselves out as agents for well-known makers of agricultural implements. A fairly large town, it is, with many firms better placed, one would think, for the handling of an implement agency. Yet here it is entrusted to people occupied mainly with furniture and furnishings. One often sees these mercantile misalliances or misfits—call them what you will. Probably a reason exists in every case if one only knew enough. But on the face of it the connection is incompatible.

* * * *

A certain household machine of wide reputation is anathema to the hardware trade in a certain city. Why is this? Not on its own account. The brand is as well known, the article as well constructed, as ever before. But the cutters have got hold of it. Certain furniture houses are selling it for little more than cost and the ironmonger must either fall into line or refuse to place the machine on his shelves. If he takes the latter course who shall blame him? He has perforce to handle some lines which carry little or no profit, but he rightly and naturally pushes those and those only which yield a reasonable return.

* * * *

Such cutting of prices is not good for anybody. Setting a sprat to catch a mackerel I call it. Obviously the cutter has to make it up on other lines, or to continue the fishing simile, he gains in hake what he loses in herrings. The market is disturbed, the machine prejudiced and the public mind utterly perverted. People are

led to think that the prices they are asked to pay in ordinary are too high, that the dealer is making exorbitant profits. It is this sort of thing that has called into being price protection agreements under which those who cut down prices run the risk of having their supplies cut off by others. Pity the makers of this particular article could not protect their interests in that way.

* * * *

The story of the burst dam near Los Angeles, in California, has sent a shock of sympathetic horror over the civilised world. Through the breach a wall of water swept down the Santa Clara Valley carrying death and destruction in its train. Hundreds of lives and millions of money are involved. Towns and villages lie in ruins. The reservoir, we read, lay at a considerable height above sea level and impounded some twelve thousand million gallons of water. It supplied or helped to supply the city of Los Angeles—some forty miles away—with water and electric current. Before long we shall hear, no doubt, just how the disaster occurred, and the lesson should not be lost on Australia and New Zealand.

* * * *

For apart from what has already been accomplished, several waterworks are now under construction in this part of the world. —And Its Lessons. I recently had an opportunity of viewing a Victorian enterprise, the Eildon Weir, now nearing completion. For my part I cannot imagine that curved retaining wall giving way, so wide and well-constructed it is. A core of ferro-concrete based on the living rock below and carried upwards in decreasing width, a thick bed of impervious clay on the upper or stream-side, and then millions of tons of broken stone, coarse and fine, poured down on both sides to form an embankment of magnificent proportions. The spill-way with its stepped floor gleams white at the deepest end, where it is built right into the solid rock, the rock from which much of the required material has been quarried.

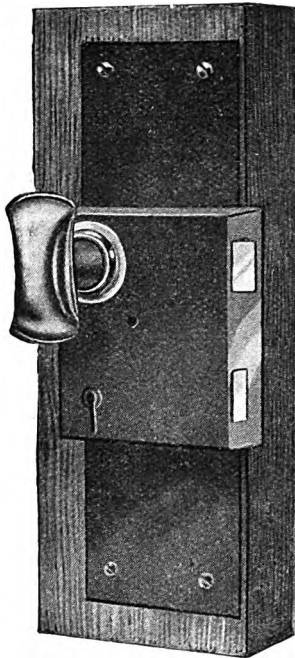
* * * *

You have to go abroad to learn what a splendid institution is covered by the name Thomas Cook & Son. In your own city you may pass their establishment year after year without having occasion to enter the door. But in another city, especially a city talking a different language and using a different currency, you are glad to take advantage of the assistance Cook's offer. Not only do they "put you wise" and give you information, but they change your money and book your passage and see you safely on board train or steamer with all your belongings. Even in good Continental hotels you may suffer if you have to change an Australian sovereign or a British note, but Cooks, you may be sure, will give you the price of the hour. The founder, Thomas Cook, began as a gardener, we are told, at a miserably small wage. Then he became a lecturer, and it was his experience of the difficulty of getting people together that suggested his tourist activities. The thing grew and banking followed as a natural development. And now Cook's are to be aligned with other similar interests in a great international company.

Novelties and New Samples

Interesting English Lines.

Amongst a number of new samples shown by Mr. C. O. White, of Hardware House, Melbourne, a range of Wellington locks and latches will interest the



trade. An automatic burglar-proof night latch, No. 1815a, the locking of the latch knob is operated with the key which turns the cylinder. When the knob is locked on the inside, the key opens the door from outside, the same key operating both knob and lock. This check-mates the thief who enters a house by thrusting a hand through the glass panel to turn the latch knob. In addition to a good selection of these night latches the makers also display a range of stamped steel case rim locks and latches. A popular rim lock, the 1923 (four-way) pattern, permits the immediate changing to the opposite hand when required. The mechanism used is so simple and effective that it would appear to be

impossible for it to get out of order.

The lock set illustrated is supplied complete with furniture and fixing screws, and in every class of finish. Its number is W3914; it is a good example of the Wellington lines, all of which are moderately priced and excellently finished throughout. The manufacturers are Albert Marston & Co. Ltd., of Wolverhampton.

From the Norwood Spinning Co., of Birmingham, comes an assortment of domestic and kitchen aluminium ware of all kinds. Special in this series is an aluminium fish cooker, fitted with movable basket. Sold at a reasonable cost, this line is sure to find a ready market.

Holt, Whitney & Co. Ltd., whose goods are well known in Australia, are supplying several shower roses which should be inspected by those handling builders' hardware. One is an aluminium rose, of handy pattern and exceptional value. The double joins give great strength, and the article is finished in good style. Other showers are of nickel plate and also of copper, supplied in various sizes.

William Soutter & Sons Ltd., of Birmingham, are responsible for electric kettles, hot plates, and other appliances of the kind. Sterilisers for hospital and dental use are specially featured by this firm. The electric current is controlled by a patent device which automatically cuts off if the vessel is boiled dry, or if inadvertently switched on when the vessel is empty. These are of strong metal, with rounded corners, supplied complete with perforated tray. The finish is heavy nickel plate. It should

be mentioned that when the safety switch has operated there is no fusible plug to replace. This is a great advantage.

Kerosene Lamps.

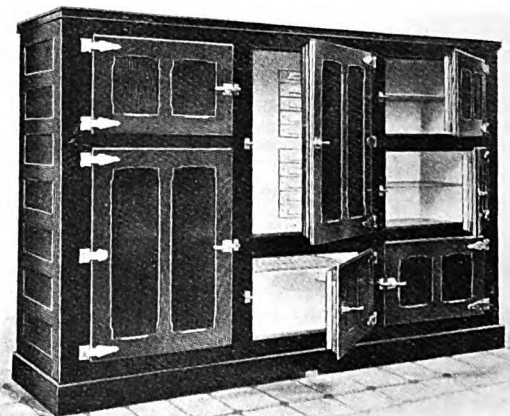
In spite of the gradual replacement of kerosene by electric current, there are still many districts where the oil lamp holds sway. Falk, Stadelmann & Co. Ltd., of 380 Lonsdale-street, Melbourne, have landed large supplies of every class of kerosene lighting appliance. Their stock of lamps and fittings is not only large, but includes an exceptional range of sizes and patterns.

For a reasonably priced lamp with a high illuminating power none is better than the "Famos" brand, for which the firm are agents. Available in both table and hanging varieties, the "Famos" is strongly made, besides being economical in the use of oil. They are finished in polished brass, nickel plate, or oxidised copper.

Every description of glassware and fittings for kerosene lamps may be ordered, and buyers should be reminded that the present time is opportune for placing their orders for the coming season.

Seamless Refrigerators.

The K. F. B. Foundry Ltd., of 310 Pitt-street, Sydney, have lately been devoting attention to the manufacture of seamless steel enamel lined cabinets for electric refrigeration. Insulation has been specially worked out to meet the demands made by the Australian climate. As evidence of the firm's achievement, it is told how they have succeeded in making a



seamless refrigerator of 50 ft. and another of 100 ft. interior capacity. On seeing the latter an American visitor, connected with one of the largest factories in his own country, remarked that it was the first time, to his knowledge, that such a feat had been accomplished in any part of the world. Both large and small cabinets for household use are now being turned out in a pleasing finish, the white enamel inside and out being attractive features. The insulation has been given special attention, so that the heat leakage is reduced to a lower level than hitherto obtained in Australia. The doors are made to withstand hard usage and the locks, catches and other fittings, are constructed accordingly.

Plated Goods.

A comprehensive range of spoons, forks, fish and fruit knives and forks, coffee, tea and soup spoons, either carded or encased in nicely finished artificial leather and snakeskin cases, is being shown by Budden, Cruttenden & Neale Ltd., 191 Clarence-street, Sydney, on behalf of the Angora Silver Plate Co., Birmingham, England.

Hand Lacquer Sprays.

Nock & Kirby Ltd., of 188 George-street, Sydney, are the N.S.W. distributors of a lacquer sprayer for household use, called the "Cornstalk" wonder spray. The contrivance is screwed to the top of a tin of specially prepared Rogers' lacquer, and is simple in operation. Made in the form of an ordinary hand spray, it spreads the liquid evenly over the surface in the same way as is done by the power sprays.

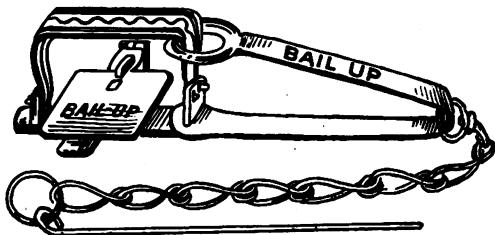
French Ratchet Drill.

J. Chaley & Co., of 510 Collins-street, Melbourne, are agents for the "Contal" ratchet breast drill, which presents a number of good features. It will bore holes with ease anywhere, even in corners, the type of ratchet permitting it to be used in apparently inaccessible places.

There are four speeds, which are so simple and so quickly operated, that instant changes can be made from the one to the other. The makers emphasise the quality of hardened steel in shaft and mandril stamped steel frame, and general strength and simplicity in use. Of French make, this drill is patented throughout the world.

British Rabbit Trap.

A. G. Kidston & Co., 9 Martin-place, Sydney, are introducing an improved light-weight rabbit trap of British manufacture, bearing the registered brand "Bail-Up." Although particularly light this trap



has a record of durability and service. As the illustration shows, it is fitted with a bridge catch and tongue enabling the trap, when set, to lie perfectly flat and therefore not liable to rock or rattle. These traps can be supplied with or without pegs in 100 and 200 galvanised tanks, also in 6 and 12 dozen case lots.

Old and New From Old England.

Mr. Leslie J. Pain, of 209a Castlereagh-street, Sydney, has opened a new range of "Bowpree" brand lavatory equipment on behalf of Bowley, Preece & Co. Ltd., Cotteridge, Birmingham, England, comprising pedestal seats, mirrors in ovals, rounds and squares. The mirror frames are laminated, thus obviating liability to warp or crack through dampness. White porcelain finished boards of various sizes for attaching bathroom toilet fittings are also shown, while an innovation of these manufacturers are bathroom fittings of Firth stainless steel, a decided improvement over the nickel-plated ware previously made by them.

The Midland Metal Spinning Co. Ltd., Wolverhampton, England, manufacturers of "Tower" brand aluminium hollowware, are represented in New South Wales, Victoria and Tasmania by Mr. Pain, and the wide range of samples displayed comprises jugs and teapots of many sizes and shapes. Some of the latter are fitted with wood and cane handles respectively, while others are shown with the new towerlite insulated handles, and others, again, with steel handles. These goods are quoted at specially low prices.

Other manufacturers represented in the display are The Staffordshire Edge Tool Co. Ltd., Dudley, England, who specialise in the manufacture of general engineers' and tradesmen's hammers; C. Marx, cork mat manufacturers, London, England, for whom a range of bathroom and table mats are shown of a particularly fine smooth finish and some wood bound. For Wm. Cook (B'ham) Ltd. are displayed cabinet handles of steel and brass, in the customary finishes; the designs shown include medallion shape grip in modern and antique suggestions. On behalf of John Minors & Sons, Willenhall, England, are featured tower, barrel and padlock bolts in various weights, while the finishes are executed in brass, gunmetal and galvanised. There is a range of ten different display cards each bearing twelve stamped brass padlocks with duplicate keys and each card represents a different style or quality.

A newly acquired agency is that of Carnegie & Layton Ltd., Birmingham, manufacturers of scales and weighing machines, on whose behalf a comprehensive display is made. Counter scales in different styles and weighing capacities from 1 lb. to 56 lb. are offered for practically all classes of shops and for domestic use. A line styled "Relievall" for use on butchers' and greengrocers' carts is fitted with cranked arm to lower the mechanism of the machine when not in use, so that all parts come to rest and are rigid, thus preventing undue wear and tear from vibration. They are constructed with strong iron stand and beam with steel pivots and bearings, and are obtainable in four qualities each of 14 lb. and 28 lb. capacity. A new model confectioners' scale with round pans, brass scoop and either black and nickel or white and nickel finish, should find favour from its fine appearance and reliability. Automatic weighing scales are shown in black and nickel, white and nickel and all gold finish.

Another new agency is Pincon & Evans Ltd., Wolverhampton, England, makers of hollowware, basins, tin dishes, enamelled saucepans, kettles and steel sinks. All the lines are of good standard quality and excellently finished. The enamelled steel sinks will command the attention of buyers from their general superiority and easy prices.

Pity the Poor Editor!

Getting out a paper is no picnic.

If we print jokes, folks say we are silly.

If we don't, they say we are too serious.

If we publish original matter, they say we lack variety.

If we publish things from other papers, we are too lazy to write.

If we are rustling news, we are not attending to business in our own department.

If we don't print contributions, we don't show proper appreciation.

If we do print them, the paper is filled with junk.

Like as not some fellow will say we purloined this from another paper.

We did—and we thank that other.

Pottery and Glassware

Sanitary Earthenware.

Adams & Co., of Hanley, Staffordshire, are makers of sanitary earthenware of all kinds. At the showrooms of the agent, Mr. C. O. White, Hardware House, Melbourne, a dozen different types are on view. A range of lavatory basins of fine appearance is also shown, the shapes as well as the designs being varied—oblong, angular and round front.

British and Continental.

W. E. Bird Ltd., of 263 Clarence-street, Sydney, have a comprehensive display of chinaware, earthenware, and glassware in their showrooms. On behalf of Wedgwood & Co. Ltd., they are showing new designs in fruit plates, sandwich sets, and dinner-ware. The new shapes and decorations in teaware from Samuel Radford are an attractive feature, being specially suitable for the Australian trade.

J. Windart & Co. Ltd. show a very large and comprehensive range of Belgian and Swedish glassware and crystal. Many suites of cut crystal are shown.

Fielding & Co. Ltd. have sent at least a dozen new lustre decorations in vases, bowls and toilet boxes, and the table earthenware, including fruit, supper and tea sets are an attractive feature.

Tooth & Co., the "Bretby" makers, have two attractive new designs. The "Zuyder Zee" series of vases and bulb bowls are decorated with Dutch figures in brilliant colours, and the Chinese decorations are in tasteful and artistic coloured designs.

J. Sadler & Sons Ltd., makers of teapots, are well represented, an exceptionally wide range of sizes and designs being on view. Worthy of note is their patent cube teapot, the handle and spout having been designed to minimise the risk of breakages.

Samples comprising all the newest effects in tea services with square muffins in sixty-five patterns are, at the moment of going to press, being unpacked on behalf of Shore & Coggins, Edensor Works, London, England, manufacturers of the well-known "Bell" china.

Budden, Cruttenden & Neale Ltd., 191 Clarence-street, Sydney, display a comprehensive range of samples of hand cut crystal on behalf of Maerky & Jahl, Pilsen, Czechoslovakia. Among the lines shown are jugs, salads, vases, trinket sets, lamps, sugars and fruits. For products at such a low price this crystal is exceptionally clear and deep cut, and whereas other "Czecho" shapes are termed "foreign," by the trade, these manufacturers give their goods the most up-to-date English shapes and cuts.

From John Steventon & Sons Ltd., Royal Potteries, Burslem, England, come several new ideas of litho decorated dinnerware. Highly toned floral borders and centres and burnished gold lines are utilised as colour schemes. These manufacturers make a speciality of supper sets with square muffins having similar decorations to those applied to dinnerware. The main feature of the cups is their light weight which, added to their quality, gives them the appearance of high-grade china. The display of fancies includes jugs, toilet sets and bowls on which some excellently shaded oriental and English rural scenes are depicted.

The Daison Art Pottery, Devon, England, is represented by high-grade hand-painted vases, bowls, jugs and jardinières, the coloured themes adopted being in the original, while subjects treated are ornithological studies, such as the kingfisher, peacock, pheasant and other brightly plumed birds on bright blue backgrounds. Flowers are also represented, the most prominent being a reproduction of the iris in natural tonings. A line known as the "Prisma"

comprises a range of candlesticks, ash trays, baskets, cups and saucers, hot water jugs and rose bowls, the decorations being in splashed high lights on blue and brown backgrounds. The designs of this ware are replicas of old Netherland pottery. A line of old Devonshire motto ware is included in the display, and on each of the household serviceable articles which comprise the line some very quaint verse is inscribed.

Sweden and Staffordshire.

Among several new agencies recently acquired by Mr. Leslie J. Pain, of 209a Castlereagh-street, Sydney, is that of the DeSvenska Kristall Glasbruken, A/B, Sweden, makers of high-class cut crystal and pressed glassware. The range of the former now displayed is unusually extensive and embraces all classes of table glass, vases and other decorative lines, trophies, toilet and novelty glassware. Goblets, for domestic use and for large hotels, with the engraved badge, are shown in a liberal number of shapes and designs. "Kosta" cut wines and liqueurs are particularly fine with gold ornamentations, as are likewise several lines in wine shade, royal blue and amethyst. The shapes throughout the whole display are beautiful and include a number of attractive novelties, while the cutting is particularly well defined. Some massive bowls are elaborately cut, while others are noteworthy for the simplicity of design and the fine colour of the glass. Among the bowls, vases and fruit dishes are signed pieces bearing cubist figures and birds artistically arranged between groups of fruit, and in the case of dishes and bowls the designs are engraved underneath so that they produce an opaque or frosted appearance on the surface in contrast to the clear crystal. Similar ideas, known as "solbarden" (children of the sun) are borne upon vases and jugs, while others are likewise expressed in richly cut puff boxes, trinket sets, etc.

In the pressed glass section a line of "Eda" brand table glass and decanters, including supper trays, is specially interesting. Easy priced lines are comprised in lustre dishes, among which pink and amethyst predominate in a liberal range of shades and shapes.

For W. H. Grindley & Co. Ltd., Tunstall, Staffs., some new decorations and treatments on Sheraton shape dinner, tea and supper services have been introduced. Among these are highly coloured floral groupings of rather bold design and effected in litho, which hitherto were hand painted. The "Penelope" service with black edge and inner circle on ivory ground is distinctive and pleasing. Another line, bearing the Hingham decoration, has a band in blue and gold on light buff ground, and likewise calls for attention. Still further is a line known as the "Cairn" pattern, which has an ivory tint ground with small white centre, and a narrow band along the rim of the article in a combination of red and gold. In dinner services an innovation comes in the form of Sheraton shape with Louvain decoration. The gravy boat is made with a double lip, attached to a square plate or stand, while new cream, soup and saucer substitutes the former coupe soup plate, but where desired the latter can be supplied. Yet another innovation is the introduction of a bone dish, kidney shape, so as to fit close to the dinner plate. In tea services the popular Queen shape cup takes the place of the former squat cup. The supper oblong sandwich trays are now offered with square and fluted ends, with plates to match, and all services can be obtained with uniform decorations as selected.

From Reid & Co., Longton, "Roslyn" brand tea and breakfast sets are featured with square plates in a number of new decorations; also variations of Crown Derby on Wembley shape tea services, the cups of which are slightly expanded at the lip.

Make the Advertising Pay

A Page of Hints and Helpful Criticism

Send Us Your Ads

∴ Let Us Solve Your Problems

Visibility in Colour Combinations

Further to our last month's discussion on posters, the following may be of interest:—

Writing in "The Poster," some time ago, Mr. Arthur H. Guertin described an experiment he carried out in order, as he said, "to know definitely the real visibility of certain colour combinations of letters and backgrounds."

Inter alia, Mr. Guertin said:—

The procedure of the tests was as follows:—Twelve common colour combinations were selected. The letters were purposely selected so as to avoid spelling a word that would be quickly recognised.

K E D were the three letters decided upon because each broke up quite uniformly with the space it occupied. The letters were 5 in. high on cards 10 in. by 13 in.

The colours selected were the most intense shade of each colour used. For red, vermillion was used; for yellow, cadmium yellow; for green, Paris green; for blue, French blue.

The colours were fastened on a rack, and so arranged as to minimise the effect of the various colour schemes upon each other. The rack was placed outdoors near the street curb, and the ten judges, each one at a time, graded the different colour schemes by walking towards them. In this way it was possible to get far enough away to eliminate the visibility of all colour schemes. By approach-

ing slowly, each colour combination as it became visible was noted. In this way the grading was made automatic.

Each judge graded the combinations individually, and had no knowledge of the others' grading. The result of the judging was tallied. The colour combinations getting the greatest number of votes for each place were placed accordingly.

The first in the list had the greatest visibility, and so on down:—

Letters.	Ground.
1. Black	on Yellow
2. Black	on White
3. Yellow	on Black
4. White	on Black
5. Blue	on White
6. White	on Blue
7. White	on Green
8. Green	on White
9. Red	on White
10. White	on Red
11. Red	on Green
12. Green	on Red

The variation of each of the judges is due to great differences in people's eyes. We feel, however, that we have struck a good cross section of the public as the judges included the janitor, a girl stenographer, garage man, bookkeeper, staff artists, superintendent, and general manager.

It was noted that the Black letters on Yellow ground could be read 260 ft., and that the Red and Green combination could not be read until one came as near as 90 ft. In other words, the Black on

Yellow combination could be seen three times as far as the Red and Green combination.

* * * *

We have come to this conclusion: that in order to get greatest visibility in colour combination, one must be sure that one of the colours is light and the other dark, also that one of the colours is bright and the other dull.

We have a good example of this in the colour combination that had the farthest visibility. Black letters on Cadmium Yellow ground. Cadmium yellow is an intense light colour, and black is dull, dark colour.

There are many factors that enter the comparative visibility of different colour combinations, not the least of which is the character of the illumination. Had these tests been made at night instead of midday, the tests would have shown a difference in the grading, depending upon the kind of lights used for illumination. Even in day-time different kinds of atmosphere might cause changes in the order.

* * * *

The subject of colour combination is becoming of great importance in the greater effectiveness of advertising, and deserves further careful study.

Our readers might do well to think over Mr. Guertin's observations and endeavour to apply them to such items of advertising matter—posters, showcards, window tickets, etc.—as they may have occasion to use.

Personal and Social

Farewell Presentations.

Mr. G. E. Hedgecock, of the Sydney staff of John Danks & Son Pty. Ltd., has been selected by the



Mr. G. E. Hedgecock

director to take up the position in London of buyer for both houses, Melbourne and Sydney. Starting with the company in December 1902, Mr. Hedgecock has had a varied experience with them, latterly having charge of their indent and overseas work generally. He left by the R.M.S. "Otranto" on February 29, with his wife and children, and will make London his headquarters, establishing there the buying office in lieu of Birmingham which has hitherto been the company's British address.

On February 27, at the warehouse 324 Pitt-street, Sydney, the employees met for the purpose of presenting Mr. Hedgecock with a pair of field glasses and a gold watch as suitable mementos of the occasion. Mr. Waitt, the general manager, made the presentation and referred to the worth and work of the recipient, who had been selected to represent the company in the responsible position of British buyer. Mr. Cutler and Mr. Simms both supported Mr. Waitt and spoke of the loss the Sydney house was sustaining by the change.

Mr. Hedgecock suitably responded and thanked the directors and those present for the confidence placed in him.

A Travelling President.

Through the courtesy of Mr. W. H. MacLennan, secretary of the Federated Hardware Merchants' Association of Australia, we are enabled to publish a portrait of Mr. J. D. Bell, the new president of that interstate body. Mr. Bell served a term as president a few years ago, and his re-election, we take it, is due to the fact that he is now on a visit to other parts of the world, those parts especially which supply Australia with hardware. Accompanied by Mrs. Bell, he left Sydney in the S.S. "Niagra" on March 8, and he will see for himself and on behalf of others the conditions governing the distribution of hardware elsewhere. He carries with him the best wishes of all sections of the trade in Australia.



Mr. J. D. Bell

In business life Mr. Bell is a director of James Campbell & Sons Ltd., of Brisbane. A certificated

accountant, he joined that firm as correspondence clerk in 1895, and has been on the directorate for many years. He has held various offices in the business life of the northern city and is at present president of the Brisbane Merchants' Association, a general overseeing body with hardware and other trade sections.

Parting Presents.

Mr. R. Wetherell has resigned from the position of manager of Brabant & Co., Brisbane. He intends to go south for a holiday, and will be accompanied by Mrs. Wetherell and Miss Joan Wetherell. Before severing his connection with the firm, the staff presented him with a smoker's outfit, a case of pipes, a case of spoons and forks, and entree dish, and a pyrex dish in a silver stand. Mr. Houssman, in a felicitous speech, expressed the esteem and good wishes of those who had worked with Mr. Wetherell, who suitably responded.

Death of Mr. C. F. Haselgrove.

With the death of Mr. C. F. Haselgrove, Adelaide lost a well-known and much-respected citizen. He was a native of South Australia, and sixty-eight years of age. From Kapunda, the place of his birth, the family removed to Wallaroo, and it was there he received his education. School days over, he was apprenticed to the hardware trade, a sum of £50 being paid as premium, while his salary for the first year was £15, rising to £60 for the fifth and last year. The articles were entered into in 1875 and the employer was Mr. W. C. Bink. After serving his apprenticeship, Mr. Haselgrove worked for different firms whose names are almost forgotten, the last of them being Harrold Bros., afterwards Harrold, Colton & Co. Ltd., and now Colton, Palmer & Preston Ltd. For that firm he travelled all over the State and even as far as Western Australia. Coming indoors, he was for some years manager of the builders' hardware department, and finally became general manager of Harrold, Colton & Co. Ltd. Then, launching out on his own account, he opened in Gouger-street as an ironmonger and importer under the firm-name of Haselgrove & Co. This business he had successfully conducted ever since. More than anyone else he helped to make that part of the city the flourishing commercial centre it now is.



Late Mr. C. F. Haselgrove

A lover of the out-of-doors, the late Mr. Haselgrove was well known on the beach at Seacliff, where he had resided for a number of years. He was also fond of travel and had made no fewer than six trips abroad, returning from his last visit to England as late as November 27, 1927. He leaves a widow and family of six sons. Several brothers and two unmarried sisters also survive. Three of the sons, Messrs. F., L. G. and E. Haselgrove, are the executors and will carry on the business under the same name. Mr. E. Haselgrove was on his way to England when his father died, but returned from Colombo on receipt of the sad news.

News from Abroad

Aluminium Manufacture in Shanghai.

Formerly all aluminium utensils for Shanghai were imported from abroad, chiefly from Germany and Japan. The German imports were of better grade, but the prices were higher and the quantity imported was less than from Japan, which supplied about 70 per cent. of the total import. Now, however, there are Chinese factories turning out aluminium utensils from plates imported from Japan, America and Germany. During the first half-year of 1927, Shanghai imported from Japan 1,774 piculs (over 105 tons) of aluminium plates, slabs, wires and utensils, of which plates alone constituted 1652 piculs, or over 93 per cent. of the whole. The three largest factories in Shanghai turn out about £43,000 worth of aluminum utensils every year, one of them doing nearly half the business. Teaspoons, teapots, rice bowls, chopsticks, plates, wine cups, chafing dishes, rice pans, lunch baskets, alcohol lamps, hot-water bottles, and soap and cigarette cases are among the articles produced.

Iron and Steel in South Africa.

In the Australian daily press of April 2 appeared the following cablegram from Cape Town:—

After a joint sitting of the House of Assembly and the Senate, which lasted two days, a bill to establish Government control of the iron and steel industry in Pretoria was passed. The bill provides that the State shall contribute £500,000 of the proposed capital of £3,000,000, and guarantees £1,500,000 worth of debentures.

Opponents to the bill declared that the State was not called upon to provide the whole of the capital. Previously the State paid bounties to factories at Vereeniging in the Transvaal, and at Newcastle in Natal. In 1924 German experts recommended their principles to establish a factory at Pretoria, but this has not been proceeded with owing to the falling of the European market. This report was the basis of the Government's case.

The House of Assembly disapproved of the select committee which the Senate appointed, and ultimately rejected the bill, consequently a joint sitting was convened.

During the closing stages Mr. Smuts, leader of the Opposition, pointed out that German experts reported to a private company regarding the basis of bounties. He urged that an independent investigation should be made, and finally pressed for an undertaking that after a few years the industry should be controlled by a private company.

The Government did not accede to either of Mr. Smuts' suggestions.

Agricultural Implements in China.

Chinese agricultural implements have been made for centuries after the same designs, and, judged by modern standards, they are far from being efficient. However, Chinese farmers seldom have large tracts of land on which modern agricultural machinery might be used, and even simple imported implements often are too expensive for them to buy. To meet this situation, the Agricultural Department of the No. 4 Chungshan University (formerly known as the South-eastern University) had been making experiments in improving the old-fashioned implements and in producing modern ones with cheaper material so as to bring them within reach of the average farmer. The department now finds it possible to have certain implements made at a reason-

able cost, and is now manufacturing them in order to supply the farmers. The implements available, with prices, are given below:—

1. Cotton seed sowing machine, to be driven by one buffalo or mule .. £2 8 0
2. 5-cog cultivator, to be driven by one buffalo or mule 2 0 0
3. 5-cog cultivator, hand-driven 0 17 0
4. No. 1 and No. 2 implements together 4 4 0
5. No. 1 and No. 3 implements together 3 2 0
6. Improved water pump, with fly-wheel 3 8 0
7. Improved, without fly-wheel 2 0 0
8. Improved rake, to be driven by buffalo 1 4 0

All the above can be packed and sent to any part of the country, the consignee to pay transportation, plus 5/- for packing.

[The foregoing is taken from "The Chinese Economic Bulletin," an official publication, but we have resolved the prices given into sterling.—Ed.]

Stainless Steel Displacing Zinc.

According to a Canadian correspondent of "The Times," London, some concern has recently been felt in mining circles in British Columbia by scientific developments that eventually may tend to reduce the demand for zinc. British Columbia is the leading zinc producer in the Dominion, the annual provincial output being 63,400 tons. Most of the leading mines produce this metal, so that almost all of the operating companies would be affected by reduced consumption.

Professor H. N. Thompson, of the University of British Columbia, in a recent review of the mining industry of the province before the Canadian Institute of Mining and Metallurgy, raised the question whether the place of zinc in the mining industry was being usurped by stainless steel. He pointed out that chromium steel was now quite common, and he believed that if stainless steel could be produced as cheaply as galvanised plate there would not be the same demand for zinc.

Metallurgists in the next few years, he contended, hoped to obtain stainless iron at not more than four cents a lb. This conversion, eliminating corrosion, would have an important bearing on the zinc demand. Alloyed steel, he added, had been developed to the point where it could withstand great pressure, and it was possible that in time this would have an important effect on industrial life. Locomotives, for instance, could be made smaller and more powerful.

While some doubted the existence of adequate supplies of chromium, the professor declared there were immense deposits in Rhodesia, Turkey, Cuba, and other parts of the world. There had been more metallurgical changes in the world in the past 50 years than ever before. Flotation systems meant the shutting down of blast furnaces; beehive coke would soon be a curiosity, and the Bessemer converter would soon be a thing of the past. Iron was now cast in machines and no longer in sand beds, and the use of the crucible process for making steel was being replaced by the electric furnace.

The production of zinc and concentrates in Australia for the year 1925 amounted to 229,809 tons.

What It Meant.

Shopping in a large London store, an attractive-looking, rather too-well-dressed woman, as she passed from one saleswoman to another, heard the remark "Two-ten." Struck by the peculiarity of the term, she called a smart lad in buttons, and said "Tell me what 'two-ten' means." "That's easy," said the boy with a grin. "It means keep your two eyes on her ten fingers."

Interstate General News

Shop Improvements.

Mr. C. Stolz, of Benalla, Victoria, has re-modelled his furniture warehouse, putting in two island windows with an arcade entrance between, and otherwise improving the frontage. A fine staircase of artistic design gives easy access to the upper floor, which has been converted into a showroom 40 ft. square without dividing walls. Up to eleven o'clock every night in the week the ground floor is lighted up by means of six electric lamps suspended from the balcony. A goods lift has also been installed.

No Pumps on the Footwalk.

The Borough Council of Feilding, New Zealand, has decided to prohibit the erection of petrol pumps on the footpaths of the municipality. No further licences for such kerbside pumps will be issued, and all present licensees have been notified that, after March 31, 1929, pumps must be clear of the footpaths or the licences will be cancelled and action taken. In discussion, the councillors declared themselves favourably impressed with petrol-service stations off the footpath, but multi-coloured pumps projecting up out of the footpath were, in their opinion, unsightly objects, and the decision arrived at was considered to be a fair manner of warning garage proprietors that pumps would have to go.

Community Chest for Charities.

Some time ago we reported the establishment by the Sydney Chamber of Commerce of a common or community chest for the support of various charitable organisations. The idea was and is to free business houses from casual or ill-timed appeals on behalf of this cause or the other. Having deliberately decided what particular charities they will support, and to what extent, Brown & Co. send the list with a cheque to the secretary of the Chamber and refer to him all applicants for help. In this way the firm know exactly what they are doing for the charities of the city, and in all probability they give more rather than less. It is now announced that, although the community chest has only been in operation for a few months, sums aggregating more than £1000 have been contributed through it to the medical charities.

New Banking Institution.

Registered in New South Wales with a nominal capital of £2,000,000, the Mercantile Bank of Australia Ltd. will soon be seeking general banking business in different parts of Australia. For although the headquarters are in Sydney the new bank "will open branches in the various States of the Commonwealth, and in country and provincial centres where sufficient inducement is offered. The bank will extend to the manufacture and trader facilities not obtainable to-day." These sentences are taken from the prospectus, which shows that, of the two millions of capital, only some £800,000, is being issued immediately. The registered office is at 58 Margaret-street, Sydney, and the first directors are Sir Edward Lucas, K.B., of Medindie, South Australia, and Messrs. Percy Freeman, Arthur C. Hopwood, and Harold C. Macfie, all of Sydney.

Summer Time in New Zealand.

It is evident that the so-called Daylight Saving Act has not proved an unmixed blessing or given general satisfaction in New Zealand. The first year's experience has left many people cold, and

many more hotly opposed to any such interference with the clock. Newspapers are full of correspondence on the subject. The farming community, dairy farmers especially, are openly hostile, and many associations of dairymen and others have passed resolutions against the re-enactment of the challenged measure. Not all the correspondents are unfavourable. Many of them, town dwellers for most part, are just as warmly appreciative. They wish to see the change continued, even if dairy farmers should have to be exempted from its operation. With such divided opinion throughout the constituencies members of Parliament will find themselves in a difficult position when the question comes up for settlement.

Business Change in Melbourne.

The business at 274 Flinders-street, Melbourne, of Chambers & Seymour Pty. Ltd. has been acquired by Brandt Bros. Pty. Ltd., well known as hardware merchants, and especially as suppliers and manufacturers of lamps and lighting equipment generally. The new proprietors, who took over as from April 1, welcome the advantages of a branch establishment in such a central position. They consider that its proximity to the Flinders-street railway station and the main city arteries offer a valuable opportunity for the distribution of hardware. Mr. Harrison, a director and manager of Brandt Bros. Pty. Ltd., will also have control of the new business, which will continue to be known under the old title of Chambers & Seymour.

The Messrs. Seymour, who have been handling the business since the death of their father, are going out of hardware altogether. Their father, the late Mr. J. G. Seymour, was associated in partnership with the late Mr. J. S. Chambers for many years. They succeeded to a business established in the early fifties of last century—if not still earlier—by Mr. Walter Powell. When Mr. Chambers retired in 1917 Mr. Seymour, with his two sons, registered a proprietary company under the old firm-name to continue the business. He died in 1921, less than a month after his long-time partner, Mr. Chambers. At first and for many years the business was at the corner of Collins and Swanston streets, now occupied by a tobacconist, but in 1909 a move was made to the present address.

Victorian Hardware Assistants.

At the rooms of the Hardware Club in Post Office-place, Melbourne, on the evening of March 14, the Victorian Hardware Assistants' Union held a smoke social, which was well attended and much enjoyed.

The president, Mr. G. Harding, occupied the chair, and during the evening had an interesting function to perform, the unveiling of a Respect Board bearing the names of the past presidents of the Union. In their order these are:—Mr. J. H. Thomas, Mr. A. A. Myers, Mr. Fred. Lee, Mr. C. A. R. Dawes, Mr. A. H. Dean, Mr. B. O. Livingston, Mr. C. A. Wainwright, Mr. J. L. Davies, and Mr. E. L. Tylour. Mr. Lee occupied the presidential chair for a full seven years. By courtesy of the Hardware Club, this board has been given a prominent position in the social hall.

On behalf of the union, Mr. J. H. Thomas, who, as shown above, was the first president, made a presentation of a handsome gold watch, suitably inscribed to Mr. B. O. Livingston, who had rendered valuable service to the union ever since its establishment. He had been assistant secretary for five years, secretary for nine years and president for

two years. In acknowledging the gift, Mr. Livingston said he had always tried to benefit the trade as well as the assistants. Other activities had obliged him to break away for the time being, but he hoped to seek re-election to the executive at some future date.

An apology was received from Mr. Ivor Evans, of Briscoe & Co. Ltd. (and the Victorian Hardware Association), who wrote from Tasmania, where his duties as a member of the Federal Child Endowment Commission had taken him, and also from Mr. L. W. Tulloh, secretary of the Victorian Master Ironmongers' Association.

The guests of the evening included Mr. J. G. Black, president of the Victorian Hardware Club, and Mr. W. B. Ridgeway, ironmonger, of Carlton, who is a member of the Hardware Wages Board. Both spoke in interesting fashion and offered the assistants some good advice. Mr. Black was good enough to promise a guinea for the purchase of a trophy to be awarded to the member of the Union who introduces most new blood during the current year. Mr. Harld Beer, of Plumb's axes and other American interests, was also present.

A good musical programme was submitted, and refreshments were served at the close. Altogether a very pleasant evening.

Mr. H. Ralph, who is again serving the union as honorary secretary, did his best to make the evening a success.

Notes from Christchurch, N.Z.

At the recent annual conference of the New Zealand Master Builders' Federation a visitor, Mr. L. Thompson, president of the Master Builders' Federation of Australia, said he had been struck by the general prosperity of the country. The building trade appeared to be healthy, although there were present signs of slackness in Christchurch. In the other cities he had visited, especially Auckland and Wellington, the amount of building in hand was greater, in proportion to population, than in the capital cities of Australia. He had not seen in the Dominion any of the "mushroom" type of concrete construction making its appearance in the Commonwealth. In his opinion building costs were about the same in both countries.

The Municipal Concert Hall to replace the Alexandra Hall, burnt down some years ago, was completed recently by the builder, Mr. W. Williamson, and was formally opened by the Mayor of Christchurch. It is five years since the ratepayers sanctioned a loan for this building and nearly two years since a tender was accepted. One serious cause of delay was the British Coal Strike, which interrupted for over six months the flow of some of the necessary material, including steel girders. This hall, a municipal property, seats over 1300 persons and will be available for local and visiting musical societies at a fee just high enough to cover sinking fund, interest and maintenance.

Very little cottage or residence building is going on just now, but there are several very large buildings going up or planned for erection in the near future. Amongst these the most prominent are several picture theatres and a new theatre for Fuller's. Mr. R. E. McDougall, proprietor of Aulsebrook's, the well-known biscuit and confectionery makers, has just promised the city to erect a handsome art gallery at an estimated cost of £25,000, and a discussion is now taking place as to where this should be placed.

The authorities are arranging for the celebration of the city's sixtieth anniversary very shortly, and proposals are being made to mark the occasion by laying out a riverside boulevard.

The Stewart river sweeper continues to do good work, and last week dealt with over 300 yards, the

full width of the River Avon. It is now sweeping the lower reaches near the city boundaries, and has made a wonderful improvement for boating.

The Prime Minister (Mr. J. G. Coates) says that work in connection with the electrification of the Lyttelton tunnel is well up to time-table and the work of rigging the overhead will be begun next month. The electrification of the tunnel itself has already been commenced. The route of the 11,000 volt feeder from Addington to Christchurch has been cleared and a new telegraph line erected between these two points. The work on the feeder line will be commenced by the Public Works Department, as most of the material is now on hand. The tower waggons for drilling the tunnel are completed and ready for the plant, and arrangements made for air and water reservoirs. Contractors for the locomotives had advised that the progress of the work was in accordance with the schedules, and they should be delivered here in November next.

Canterbury merchants continue to feel the handicap of not having direct communication with the sea, but for passenger traffic, at all events, the electrification of the tunnel will be a great boon. In a letter to the press from the Port and City Committee, dated March 17, the construction of a tunnel road was again suggested and the committee maintained that the Government is not dealing fairly with Canterbury in this matter.

"To this day revenue extracted from rails laid on our wharves, which we built ourselves, still own, and still exclusively maintain, goes to relieve the purses of North Island ratepayers. As a striking example of official tyranny it might surprise local taxpayers to know that the Lyttelton Harbour Board placed electric capstans on the wharves to speed up the notoriously slow progress of wharf-shunting, as well as to save the wharf decking from damage from horse traction; and the Railway Department, when asked to contribute to the expense, replied that they were quite satisfied with horse traction, did not ask for the capstans, and saw no reason why they should contribute to their installation or maintenance. Hence we foot the bill, capital cost, electric power and maintenance, and are denied access to our own wharves."

A contract for £17,238 has just been let to a leading Christchurch firm of builders, P. Graham & Sons, for the construction of a concrete pavement on the Christchurch-Blenheim highway for a length of 2 miles 72 chains. This work is under the control of the Main Highways Board.

Don't Worry About Competitors. (From "The Efficiency Magazine.")

Don't worry about your competitors. They are the spice of life. They are the zest of the business.

If it weren't for your competitors there would be moss and ivy all over you and your business.

You are losing more money by neglect than you are by competition.

You are losing more by waste—by lack of team play—by jogging along in a rut.

If your competitors are ahead of you, be a good loser. Don't squeal and make excuses.

Then play the game harder. Get at it with all the brains you have and all the brains you hire.

Don't settle down to be a tailender with a grouch. Make up your mind to win.

Show your competitors that you are still in the running.

Then when Christmas comes (again) you might send a present to every one of your competitors with a card saying, "Many thanks for having kept me alive during the past year."

Yes—why not?

The Banking Position in Australia 1914 and 1927

(Contributed by 22/224)

A comparison of the banking figures as at December, 1914, and December, 1927, reveals astonishing increases in deposits and advances, indicative of the tremendous inflation that has occurred in credit prices and values throughout Australia, and explaining in a large degree the fall in the value of money.

At December, 1914, the average deposits of the various trading banks were £150,800,000; of the Commonwealth Bank £3,600,000, with £4,300,000 of Savings Bank deposits; and the other Savings Banks of Australia had deposits totalling £79,300,000. Summarising these figures we get the following deposits:—

Trading Banks	£150,800,000
Commonwealth Bank	3,600,000
Commonwealth Savings Bank	4,300,000
Other Savings Banks	79,300,000
	<u>£238,000,000</u>

Comparing these figures with those of December, 1927, we get the following remarkable result:—

Trading Banks	£265,200,000
Commonwealth Bank	25,700,000
Commonwealth Savings Bank	46,000,000
Other Savings Banks	158,700,000
	<u>£495,600,000</u>

Thus total deposits show the enormous increase of £257,000,000 in thirteen years. There is overstatement in the above figures in that some of the Savings Bank deposits are deposited in the trading banks, thus duplicating them, but the duplication is not great in proportion to the total figures.

Turning now to Advances, we get the following comparison:—

	1914.	1927.
Trading Banks	£124,000,000	£249,300,000
Commonwealth Bank	1,700,000	21,600,000
Government Securities	3,400,000	53,810,000
	<u>£129,100,000</u>	<u>£324,710,000</u>

In addition to the above, the State Savings Banks have made enormous advances or loans by investing in State and Commonwealth debentures and stocks, in municipal, credit foncier and other debentures, and in mortgage and deposit securities, thus investing a large proportion of the £158,700,000 of money deposited with them.

Turning now to Cash Holdings of the Bank, some very interesting comparisons are to be noted. At December, 1914, the trading banks and the Commonwealth Bank held against their deposit liabilities cash as follows:—

1914.	Deposits.	Gold Held.	Notes Held.	Per £1 of Deposits.
Trading Banks	£150,800,000	£34,100,000	£8,400,000	5/8
C'wealth Bank	7,900,000	700,000	300,000	2/6

Thus, of the 5/8 held by the trading banks in 1914 against every £1 of deposit liabilities, 4/6 was held in gold and 1/2 in notes, and of the 2/6 in the £1 held by the Commonwealth Bank, 1/9 was in gold and 9d. in notes.

In 1927 the comparison is as follows:—

	Deposits.	Gold Held.	Notes Held.	Per £1 of Deposits.
Trading Banks	£265,200,000	£26,000,000	£26,500,000	3/10
C'wealth Bank	25,700,000	—	—	—
Do. Savings Bank	46,000,000	900,000	6,000,000	1/11

(The Commonwealth Bank also held £21,600,000 in gold against the note issue of £51,800,000.)

But of the 3/10 in every £1 held by the trading banks in 1927 against deposit liabilities, only 1/11 was held in gold as against 4/6 in 1914; whilst of the 1/11 in every £1 of ordinary and Savings Bank deposits held by the Commonwealth Bank (apart, of course, from the £21,600,000 in gold held against the note issue), only 3d. in the £1 was held in gold as against 1/9 in the £1 in gold in 1914.

These figures illustrate how largely our credit system is now built upon a paper money basis, and not so much on gold. The disadvantage of this is that whereas the enormous deposit liabilities of the banks place tremendous purchasing power in the hands of the public of Australia, if they should exercise that purchasing power in buying goods from overseas, the position might be created of Australia having large adverse balances to settle, without having the universally acceptable form of money wherewith to pay them—gold.

The position of the Commonwealth Bank in Australia at the December quarter of 1927 is very interesting. It had deposit liabilities of £71,700,000, and owed £8,500,000 net to other banks, and it had advanced to Government and to customers £75,400,000, thus actually exceeding its deposits by £3,700,000.

Reverting again to the deposit liabilities of the banks, whence have come these enormous increases? At first thought one would say they were largely due to the increased value of Australian production since 1914. But if we turn to the export and import figures since that year, we find that imports of merchandise have exceeded exports in the thirteen years by £18,500,000, so that there does not seem to be any possibility of an explanation in the enhanced value of Australian products accounting for an increase of £25,700,000 in Australian deposits during these years. We are therefore forced to the conclusion that the increased deposits are the products of loans. It is fairly easy to account for the increase of deposits in the trading and Commonwealth Banks as the products of their advances; and there can be little doubt that the increases in Savings Bank deposits are due to a small proportion of the hundreds of millions of loan moneys borrowed by the Commonwealth and State Governments in the last thirteen years having been saved by the recipients and placed on deposit with the Savings Banks.

British Trade Exhibition

Melbourne, February 23 to April 10, 1928

Second Report by our own Representative.

Fire-proof Safes and Strong-room Doors.

Milner's Safe Co. Ltd., of London and elsewhere, who are well represented, have been making safes and other products for nearly a century, their Phoenix Works at Liverpool being probably one of the largest of its kind in the world. Here not only is the work of manufacture carried on, but tests and experiments are conducted as part of their business: that of providing the best possible security for their clients.

The makers state that it is not sufficient to say that a safe is fireproof. It must be constructed of such strength as to withstand either a fall from a great height, or to resist crushing blows of falling masonry or iron girders. These are contingencies which must be taken into account.

A special light, fire-resisting safe is made to meet conditions where the heavier patterns are not required. These are in three sizes only; their fire-resisting qualities are obtained from the same composition as is used in all Milner safes.

The "List 2 quality" may be had in any dimensions, although certain standard sizes are listed. The latter run from an interior measurement of 18 x 12 x 10 to 66 x 54 x 20.

Again for special purposes, where great strength and solidity are essential from the nature of the conditions to be met, other types are provided. There are patterns to suit every need, whether of commercial house or the large banking institution, where the protection of the client's property demands perfect safety, or where large sums of coin or bullion are regularly on hand.

The exhibit includes an example of each of the seven grades of safes produced by the firm, and several strongroom doors, which represent another important section of their activities. There are also specimens of the safes as used in Safe Deposit concerns and bankings strong rooms, and steel cabinet work, such as shelving, drawers, lockers, and cupboards.

Briscoe & Co. Ltd., of 391 Little Collins-street, Melbourne, are distributing agents.

Vickers Tractors.

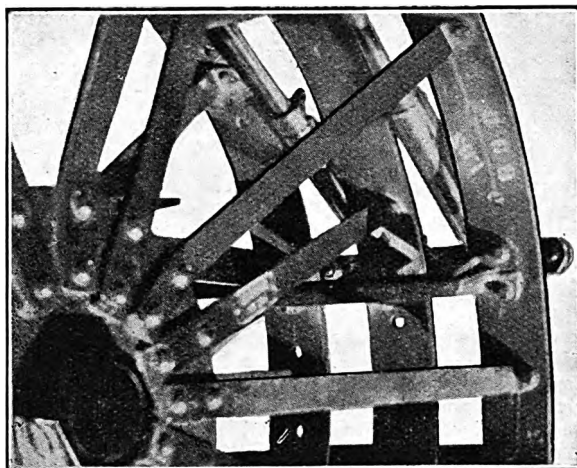
Engineers have been no less interested than farmers in the remarkable "Vickers" tractor. It has many points which place it in a class of its own. Perhaps the most interesting feature from an Australian angle is the "Kendell-James" wheel, with which it is fitted. No single difficulty has so hampered the use of tractors in the past as the impossibility, as it seemed, of finding a simple method of cleaning the wheels, automatically, in damp, loose soil.

In this country, where the rainfall is often scanty, it is essential to undertake tillage when the ground is moist on the surface. Anyone who has witnessed the struggles of a tractor in wet soil will appreciate the value of an efficient wheel-cleaning system under these conditions. It is claimed that the "Kendell-James" type, which is the invention of Australians, not only keeps the wheel free from clogging, but does not compress the soil, and there is no slippage, with consequent waste of power. The actual weight on the rear wheel with one inch depression is only 15 lb. per sq. in.

The wheel is built with three tyre sections, between which are placed fixed cleaners. These are so fitted as to get underneath the mud and comb it out. Any mud which is rising with the wheel is therefore thrown back to the ground. A clean gripping surface is thus assured at all times.

The names of Vickers is sufficient guarantee as to the quality of material and workmanship. The engine is of 30 h.p., giving ample reserves of power. The type of carburettor used, the Stromberg, represents the most modern development of its kind. It has dual float chambers and instantly-operating change-over valves, eliminating the necessity of draining off kerosene from the chamber when starting up the engine. The Stromberg principle of mixing fuel and air, and the absence of spring valves, are too well known to need stressing here.

The main final drive gear on the back axle is another important feature. The tooth faces are surface-hardened by the Vickers patent process; a process which employs an oxy-acetylene flame



directed on to the metal under water. This gives qualities of hardness and toughness specially suited for the heavy duty a tractor is called upon to undertake.

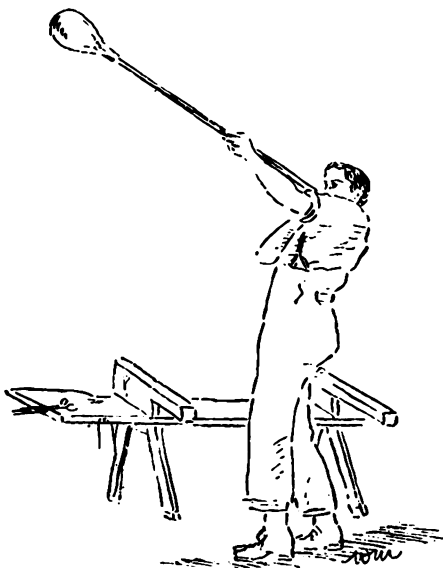
Tests under all conditions were recently carried out in a number of Australian centres, and there is ample evidence of the complete approval of experts who witnessed these demonstrations. Not only were these tests carried out in wet and loose soils, but the tractor was equally successful in all weather conditions. That is to say, the special wheel, so effective in wet ground, showed no disability in dry areas; it has been designed for all Australian purposes.

A complete tractor is displayed at the British Exhibition, and visitors may inspect every detail of the job.

Manufactured by Vickers Ltd., of England, the machine is handled in the Commonwealth by the British-Australasian Tractor Co. Pty. Ltd., of 78 Bay-street, Port Melbourne. In South and Western Australia Elder, Smith & Co. Ltd. are the distributing agents.

Manufacture of Crystal Glassware

The term "Stuart Crystal" is familiar to all English-speaking people. It is associated with a standard of quality which has never varied: a standard which has been maintained by a succession of craftsmen directed by members of a family whose lives have been spent in the production of beautiful glassware.



Glass Blowing

All the operations which go to the making of crystal glass require great skill and many years of experience. It is essentially a handicraft. No machinery can replace the individual art which is embodied in a piece of high-class crystal. The selection and direction of a staff capable of turning out this ware year by year pre-supposes a high degree of intelligence and skill in those responsible for the control of such an industry.

A short account of the processes involved will show, in an imperfect way, the quality of artistry and technical knowledge called for in the work.

The materials used are sand, red lead, potash and other ingredients. All must be carefully selected, and the precise composition is, of course, a closely-guarded secret.

The silver-grey sand comes from Fontainebleau, in France. It is first washed, and then calcined. Red oxide of lead gives brilliancy and "life" to the crystal and also the "ring" which is so prized by users. Potash is used as a flux, without which the sand would not dissolve.

The correct proportions of each material are put into a machine, and mixed in a dry state. The product is then known as "batch." This is melted in fireclay crucibles, which are placed within the furnaces. In the molten state this is called "metal."

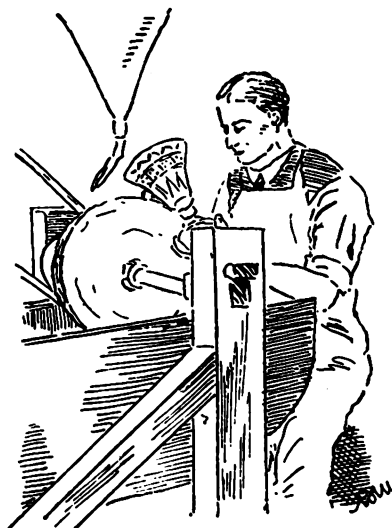
Crystal glass is first blown and shaped by the glassmakers. The glassworkers work in squads of four, a combination which is known in the trade

as a "chair." Each "chair" is engaged before a crucible, and these four work people are required to make even a plain wine glass. A special part is performed by each, and they are known respectively as "maker," "servitor," "footmaker," and "boy," in order of their importance..

Moulds are not used to any great extent in this work. Certain articles, however, are blown in moulds, sometimes to secure uniformity, and sometimes to obtain a design such as an optic wave, diamond, or fluted effect. One fine example of this is in the case of the Stuart "ring" pattern. Wine glasses, vases, floating bowls, decanters and other pieces have all been successfully produced in this pattern during recent years. It is the firm's own registered design, and will be recalled by many as one of the most beautiful innovations introduced into crystal glass during the past few years. Many costly moulds were scrapped, and many expensive experiments made, before this idea was finally put into use. It has the effect of heavy cutting, giving the appearance of silver horizontal bands around the lower portion of the article. This is done in the initial stages of manufacture, and throughout the blowing processes the impression of the mould is retained on the outer surface of the glass.

The use of moulds, however, is not to cheapen the process, for the manufacture of the moulds is an expensive item, a separate mould being necessary for each different piece.

All hand-made crystal needs annealing, to avoid fractures through unequal cooling and contracting. This is a process of gradual cooling, the glass travelling at a suitable pace through great heat to



Glass Cutting

the normal temperature. The time required depends upon the thickness of the glass. Large pieces may take up to five days in an annealing kiln.

The plain glass, or "blank," is taken in hand by a girl, and the principal points or framework of the design are indicated on the article by means

of a brush. This ensures proper symmetry and accurate spacing, as any error on the cutter's part is irretrievable.

The piece is now passed to the glass-cutter. He sits at a "cutting frame," or trough, to which is fixed a revolving wheel, power driven, the axis of which is horizontal. A hopper hangs just above the wheel. The design is first "roughed out" on an iron wheel, the hopper dropping sand and water on the wheel as it revolves. The glass is held to the top of the wheel, the cutter looking through the glass article as the wheel cuts through the under-surface.

This process leaves the glass covered with rough gashes, and it is then passed on to another cutter, who "smooths in" the design. This time a stone wheel is used, the hopper only dropping water. All the cuts are neatly joined up, and the finer parts of the design, which the "rougher-out" may not have even commenced, are now cut in.

The piece is now of the familiar cut pattern, but all the cuts are dull, or frosted. These have to be acid polished. Numerous cutting wheels are essential, as the cutting edge of each varies considerably. Some have a sharp mitre edge, while others are more blunted, according to the mitre cuts required. Other wheels have rounded edges, for hollow flutes or mirrors, and still others are flatted at the edge for flat flutes.

The glass leaves the cutting wheels rough, and with a dull matt appearance in the cuts. The article is now immersed in acid, to bring the cuts up to the brilliance of the remainder of the piece. The acid is a mixture of hydrofluoric and sulphuric. Girls dip the glass in this acid bath, move it about for a few minutes, afterwards dipping it in a water-trough to arrest the effect of the acid. Special rubber gloves are worn in this operation, and fume shields are provided, while fans draw the fumes away from the operatives.

The design is etched into the surface of the glass by means of acid, the article first being covered with a mixture of beeswax, whiting, and ammonia. The design is scratched through this coating, and again immersed in an acid bath. The wax protects the surface, allowing the acid to bite into the exposed portion. Matt effects are obtained by coating with wax all excepting those parts to be treated, a slightly different acid mixture being used.

Copper wheels are used for engraving designs on glass. These wheels are much smaller than those used for cutting. Some are no bigger than a pin's head. The abrasive is a mixture of oil and emery. Even in this fine work it is necessary to constantly change the engraving wheels to suit the different sections of the design.

Besides the regular work of production, it is necessary to keep a succession of new patterns and designs coming forward. This is the task of a specially trained staff. But every new shape, every fresh design, requires a corresponding variation in the work of each individual craftsman. In machine production it needs only a different mechanical adjustment. Once this is done, work proceeds more or less automatically. But in the making of crystal glass every changed operation has to be individually performed, and each successive process carried out by mind and hand. This it is which makes the organised manufacture of crystal, in quantity, so remarkable and unusual.

The Australasian agent for Stuart & Co. Ltd., Stourbridge, England, is Mr. A. B. Wahlers, of 317 Flinders-lane, Melbourne.

Publications Received

Benjamin Reflector Fittings.

The Benjamin Electric Ltd., of Tariff-road, Tottenham, London, N.17, have issued a catalogue entitled "Benjamin Correct Lighting Equipment." It illustrates a number of their products, not only showing the reflector fittings by themselves, but how singly or in series they illumine various places—offices, warehouses, factories, and what not. The fittings represent patents and registered designs, and with each article illustrated brief particulars are given. Running to 76 pages 11 x 8½, the little volume has been beautifully produced by the printers.

Morris Electric Lifts.

A pamphlet bearing this title has been issued by Herbert Morris Ltd., of Loughborough, England. It illustrates a variety of electric lifts supplied by the firm for different purposes—passenger and goods, private houses, business and banking premises, and public institutions. For those whose needs do not justify the installation even of a cheap electric lift, the firm supply hand-operated lifts of different type. These, too, are shown in the publication now before us. All kinds of lifting and shifting appliances, indeed, are supplied by the Loughborough firm.

Noyes Bros. (Melb.) Pty. Ltd. are the local agents.

Tools and Hardware.

A most comprehensive catalogue is that issued by Fr. Eduard Engels & Co., of Remscheid-Vieringhausen, Germany. It runs to 332 pages 9½ x 6, and illustrates an extensive variety of tools and building and household lines usually stocked by the ironmonger. Beautifully printed and strongly bound in light grey canvas, the book is a pleasure to handle, and a detailed index at the end facilitates reference. A picture of the firm's large factory at Remscheid appears on the title page. Their output in tools, hardware and cutlery is sold under one of two registered trade marks, the masked head of a female (the "veiled woman"), or the initials F.E.E. in a diamond.

Our copy is from Cheetham & White Pty. Ltd., of Cromwell Buildings, 366 Bourke-street, Melbourne, whose name as the "representatives for Australia and New Zealand" appears on an early page. They will be pleased to send a copy on application to any interested firm.

Australian Engineering Standards.

Two further tentative standard specifications are to hand from the Australian Commonwealth Engineering Standards Association. C46 deals with liquid starters for electric motors, and C47 with star-delta switch starters for electric motors. In both cases British standard specifications have been used as a basis, and in both cases criticisms or suggestions are invited from those interested before the specifications are standardised.

In a leaflet accompanying these the following are set out as "some" of the objectives of the association:—

(1) To develop Australian industry; (2) to eliminate waste in manufacture; (3) to reduce cost of production; (4) to simplify distribution; (5) to stabilise employment, and (6) to promote a spirit of co-operation between divergent trade interests.

A progress report of the work actually done during the second half of 1927 shows that the association, through its various committees, is occupied in many directions—civil, mechanical and electrical engineering, transportation, chemical industry and mining.

The headquarters of the association are at Macleay House, 16 College-street, Sydney.

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.

For English prices, see The Month's Cablegrams on page 116

Sydney, March 31, 1928.

Conditions generally in trade circles have improved and stocks are not held in such large quantities as at the closing of last month, although prices are not showing much variation. Business in the metropolitan area has been marked by nothing outstanding in demand, but orders have been regular and from a widely spread area. Retailers in the country have bought fairly well and there is a more buoyant feeling among representatives of the wholesale houses. Country conditions have been improved as far as demand is concerned by the phenomenal rains which flooded such large areas of our most important districts. Finance is giving some careful thought; not much money is available for speculation in stocks, and it has been particularly noticeable in the city where in some products only trade houses have operated and other merchants have preferred to stand aside for the time being as re-sellers. Most traders have operated in smaller quantities than usual, but the sales were in hand and stocks therefore from holders were in many cases considerably reduced. Tin showed an increase and purchases made gave the impression that manufacturers are carefully following the market and not taking any unnecessary risks in buying heavily. Galvanised corrugated and plain sheets went into distribution at current rates—chiefly 26 gauge, and some parcels of Escro Crow and Orb were reported as sold in fairly large quantities. Welsh coke tinplates had some attention on spot and indent parcels were booked among the manufacturers. The market locally has responded to firmness overseas. Turpentine and resin sold to wholesalers and local distribution was very good. Resin sold to Victoria at satisfactory figures and quite a large parcel is reported as purchased. Other parcels from among manufacturers locally were taken off the market and this caused an upward trend in price. Shellac received attention on account of the shortage of local supply and the long delay in replenishment of stocks which was expected to be relieved when the January steamer arrived, but this stock went into distribution rapidly and prices are unaltered. Jute fabrics met with competition among the various sellers. Demand did not realise expectations, with consequent slight variation in price. Suburban trade has been quieter than usual and the smaller suburban storekeepers find the chief cause is due to general financial stringency and consequent absence of money for home purchases.

Auckland, March 26, 1928.

Since last report there is a tendency to improved conditions in trade both in town and country. A more active demand is expected from the country districts where the weather conditions are ideal for a successful autumn. Up to the present the farmer appears to be engaged mostly in recovering arrears but the improvement in output and the prices being obtained for primary products should result in better conditions in the near future. The demand for

water pipes has been considerable, but stocks in hand are meeting this demand. Discounts are lower at 50 per cent. off list prices for galvanised, and 60 per cent. off for black. Pig lead is easier at £30, and sheet lead at £34/10/- per ton respectively. Ingot tin also shows a fall in price in sympathy with latest cable advices, holders quoting to-day £2/7/- per ton. There has been a fair demand for white lead and the price is firm, as per list. Linseed oil has also received attention, fair sales being reported. The demand for corrugated iron has not been active on account of the building trade being quiet, but the expected improvement in general conditions should have its effect in this direction.

NEW ZEALAND PRICES.

	Duty.	Auckland. Mar. 26	C'church Mar. 21	Dunedin. Mar. 20	Wellington Mar. 29
IRON—					
Bar—		£	£	£	£
English ..	Free	21	22/	22/	22/
Shoeing ..	"	23	23/	23/	23/
Steel ..	"	15/10 to 21/-	20	22/	15/ to 22
Pig ..	"	8	10/6	10/6	9/- to 10/-
Plate ..	"	21 10	24/	25/	22/
Hoop ..	"	24/ 35/	25/6, 37/6	32/	25/ and 35/
Sheet, Blk.	"				
to 20-g.	"	23 10/ 24 10/	23/6	26/	24/6
22 & 24 g.	"	25 10/	26/6	28/	26/6
Galv. Cor.—	2/-				
First ..	"	28	30/ Builders	30/	28/
Second ..	"	27	28/-	28/6	27/
Local ..	"	28			
Do. Plain	Free				
24 & 26 g.	"	29/10/30/15	31/ 33/	35, 37, 39	28
Pipe—Galv.	Free	50%	47½% off	42½	45% off
Black ..	"	60%	50% off	50% off	50% off
Wire—					
Galv'd.	"	15/6, 18/-	16/	16/	17/ to 18/
Black ..	"	16/-	16/	15/	
Barbed ..	"	21 23 10/	21/-	21/	21/ to 22/
Nails ..	2¼/- c	20/6	20/	24 to 23	22
Lead—Pig	Free	30/	33/-	36/	32
Sheet ..	"	34 10	38/-	36/	39
" Shot ..	10/	75/	75/	80/	75/
Tin—Ingot	Free	2/7	2/9	3/2	2/10
Plates ..	"	32/6, 48/6	40/	40/	37/6
Zinc—Sheet	"	7½d. 1b.	9d. 1b.	8½d.	7½d
Quicksilver	"	...	6/6 1b	...	...
Cement—					
Imported	1/- cwt.	5/8	22/6 cask	6/	5/11
Local bag	"		7/-		
Slates	Free	26/-	30/-	28/-	27/
P. of Paris ..	6/- cwt.	53/	57/6	56	58/
White Lead	"	54/			57
Best ..	"	53/			57
Second ..	"	1/8	1/9	1/7	1/8
Blst. Powder	Free	1/8			
Rope—	20%				
Manila, Star	"	111/	111/	111/	111/
O.	"	107/	107/	107/	107/
Flax, N.Z.	"	81/ 88/	88/	88/	88/
Co nsacks ..	Free				
44-in.	"	...		12/9½	13/6
46-in.	"	...	14/9	12/8½	12/4
48-in.	"	14/6	15/	13/2½	12/10½
Woolpacks ..	"				
Full ..	Free	5/3	5/3	4/4	5/3
Oils—					
Lins'd, raw	6d.	5/-	N.Z. 5/- Eng 5/3	5/2	5/8
Castor ..	Free	5/6	5/6	5/5	5/6
Colza ..	"	7/9	8/	8/-	7/9
Kerosene ..	"	13/9	14/9	14/6	13/9
Turpentine	"	6/6	7/-	6/6	6/6

Christchurch, March 21, 1928.

Hardware firms in Christchurch find business still fairly quiet, but the feeling is general that a turn for the better may be expected, and that at an early date. Several things, certainly, seem to point in that direction. Several reductions in price call for notice. Black sheet iron is down to 23/6 for 20 gauge, and 26/6 for 22 and 24 gauge. Wire nails are now on a 20/- basis for 4 x 8, while ingot tin has experienced a further drop to 2/9 per lb. Other prices are without change from last month.

Dunedin, March 20, 1928.

Since last advice business has not made much improvement, but hopes of better things prevail, induced chiefly by the high prices secured at the recent wind-up of the wool sales season. Even inferior parcels reached a figure seldom attained, both home and foreign buyers keenly competing. The result should prove advantageous to farmers and graziers, and should bring them into the market for fencing and other materials. City improvements are not so active, although the Town Hall and two or three theatres are proceeding towards a finish. The site for the new Government building is almost clear, and a beginning with the work of construction should soon be made. Values are but slightly altered since last month. Galvanised wire is lower in price at 16/-, and black is also down to 15/-. Sheet lead is now quoted at 36/-, and best white lead at the reduced figure of 56/-. Linseed oil is lower at 5/2 for raw, and castor is also down to 5/5. Cornsacks are ruling at 12/9½ for 44 in., 12/8½ for 46 in., and 13/2½ for 48 in. With these exceptions, last month's levels are still maintained.

Wellington, March 29, 1928.

Business is brighter and more active here, and the general outlook is very satisfactory. The wool season has just closed with prices at the highest point reached, and fully 4d. to 4½d. above opening rates in November, which were considered satisfactory at that time. The proceeds of local have made very large distributions of money, which helps trade all round. Meat, butter and cheese shipments are ahead of last season, and prices are ahead of a year ago. The balance of trade is now back on the right side, exports for the year ended February 29 exceeding imports by £8,897,716, as compared with an excess of imports for the preceding year of £2,115,088. This improvement has eased financial conditions and is helping to stimulate trade. There is a tendency towards lower prices for metal goods; galvanised iron and bar iron have been reduced £1, plate and sheet iron are also lower. Lead has dropped £3. Iron pipes, tin and zinc are reduced a little. Stocks of all metals are satisfactory, and there are no shortages of supplies reported. White-lead has eased in sympathy with the metal. There is no change to record in oils. A fair amount of building is still in progress here, chiefly in offices and warehouses, of which some large buildings have been going up recently. There is also a fair amount of residential building in progress.

Brisbane, March 30, 1928.

March has been a slight revival in the hardware trade, and, although orders have not been large, there has been a distinct increase. Money, however, is still very tight, which probably accounts for small transactions. This appears to be the order of the day, and there is a general tendency to reduce quantities to a minimum, in conformity with the stringent financial conditions prevailing. All the same,

merchants are feeling more optimistic, and are looking for a good increase. Heavy hardware has shown a steady improvement, with prices firm, and stocks rather too heavy. Bulk lines have received a good deal of attention, and stocks are in full supply, with prices unchanged. Pastoral lines, including fencing wires and wire netting, have had a fair demand, prices being firm and stocks well above demand. Builders' materials and ironmongery have been quiet, but it is expected there will be a forward move after Easter. Corrugated iron has been selling steadily, spot supplies being on the light side, and prices unaltered. Cement has been fairly satisfactory, in consequence of the large amount of metropolitan building going up; prices are steady, and stocks fairly good. All kinds of tools are on the slow side with prices unaltered, and stocks in full supply. The painting trade is very quiet, and consequently sales of paints, lead and oils are slow. White lead continues to be in plentiful supply, and prices have eased. Oils and turpentine are in the same category. It is understood there is a fair amount of big work pending. Sanitary materials and ironmongery are quiet, with stocks well ahead of demand, and prices steady. Glassware and crockery are in heavy supply, and prices are being chopped in order to push sales. Otherwise the demand is slow. Tinware, aluminium and enamelled ware are exceptionally quiet. Stocks are abundant, and prices likely to be very keen before long to induce trade. American axes and lanterns are plentiful at present. There has been an improved inquiry from the country, and prices are steady. Woolpacks are easier, but incoming shipments are likely to be dearer. There has been a fair demand for the month. Cornsacks are easier in demand, and prices are firming in sympathy with the overseas market.

Adelaide, March 30, 1928.

Little improvement was noted in the volume of business transacted at this centre during the month. Merchants are well stocked in all lines, with the result that very little inter-house trade has been noted. Some merchants, however, were called upon to buy in black and galvanised tubing on the spot, and one parcel of 10,000 ft. and another of 5,000 ft. were sold at 57½ per cent. off the list. A few odd parcels of fencing wire also changed hands; 8g. and 10g. galvanised realising £16/10/- and £17/10/- per ton. At £19/10/- a fair parcel of high tension wire 12½g. x 850 was sold. A few inquiries from merchants for netting on the spot resulted in the sale of a few miles of 42 and 36 x 1½ x 18g. at very little above cost. Fair business was transacted in the country centres, although figures were well behind the corresponding period last year. The building trade, however, is very slow with practically no demand at all for reinforcing rods, G.C. iron, sanitary fittings and builders' shelf goods. Very little hope is held out for an improvement in this demand, for a while at any rate. But little alteration is noted in prices, however. Ingot tin has been reduced to 2/7 lb. Turpentine sales are slow and stocks are very heavy considering the proximity of the new season's pack. Already merchants are being canvassed with quotations for such consignments.

Melbourne, April 3, 1928.

Business in domestic hardware was fairly good during March, but heavy metals and materials were generally quiet. Wire netting sold at the following figures:—1 mile lots, 36 x 1½ x 17, at 56/- per roll of 100 yards; several three mile parcels, 42 x 1½ x 17, at £41 per mile; 36 x 1½ x 17, at £36/15/-; 36 x 4 x 16 (3 miles), at £23. Building materials sold well in some directions, but the bulk would not be large. In galvanised corrugated iron quite a few

lines of 5 tons were traced at £24/7/6, less discount; cement would seem to be still produced locally in excess of requirements. The Port Kembla works recently established are apparently combined with the big steel venture foreshadowed in the press of late. Many plants are said to be working at less than capacity. Public operations consume the greater part of our output; building is far from brisk, and no great demand exists outside the Government uses. American plaster, which finds favour for better class work, sells fairly well. A sale of 25 casks K.W. brand, quality F.F.F., at 35/-, gives an indication of the market. Wire for fencing purposes moved slowly. Galvanised wire sold at £17/7/6 for No. 8; later on in the month £16/15/- was accepted. Small lots of plain galvanised, 12 gauge, went at £18/5/-, and barbed wire of the same gauge at £22; No. 13 barbed at £23, and No. 14 at £23/10/-. A few good parcels of steel were purchased for interstate requirements; prices noted were 10 tons steel plates assorted, 1, 3 and 3 in., at £12/10/-; 5 tons mild flat steel, 2 by 1 and 1½, at £15/10/-; while another lot of 5 tons black steel sheets, 6 x 36 x 16 gauge, £22/10/-. The ruling prices for galvanised iron pipe, 2 in., were 57½ per cent. off (an interstate order); and black pipes assorted, 1½ and 1½ in., 66½ per cent. off. A line of 75 boiler tubes, 4 in. by 9 gauge, brought list price less 10 per cent.; and 25 stay tubes, list price nett. During the month ingot tin varied from £237/10/- to £240 per ton; the dealings traced were for one ton parcels. Throughout the summer it has been complained that paints and oils have sold slowly. Champion's white lead still finds a good demand, although some £6 higher than Australian brands. The former was in fair demand at £63, and the latter at £58 to £60. Here and there prices have been slightly reduced when good parcels were involved.

The Month's Cablegrams

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date	Copper Electrolytic Per Ton		Tin Standard Per Ton		Silver Standard Per Ounce	
	1927	1928	1927	1928	1927	1928
Feb 29	63½-63½	66-66½	£ s. d. 305 2 6	£ s. d. 229 2 6	d. 26½	d. 26½
Mar 4	63-63½	66½-66½	316 7 6	232 6 3	26	26½
" 9	62½-63	66½-66½	315 17 6	229 12 6	25½	26½
" 16	62½-63½	66½-66½	314 15 0	228 17 6	25½	26½
" 23	62½-63½	66½-66½	312 7 6	240 3 9	25½	26½
" 30	62½-62½	66½-67	309 7 6	239 1 3	26½	26½
Apr 3	62-62½	66½ 67	311 7 6	239 17 6	26½	26½

The stocks of tin in the United Kingdom at the end of March were 15,281 tons; the deliveries for the month 2602 tons; the quantity on spot, 896 tons; and the quantity afloat 1835 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—March 4, £19/15/-; March 9, £20/1/3; March 16, £19/15/-; March 23, £20/3/9; March 30, £20/3/9; April 2, £20/6.

For the month of February the imports of lead into Great Britain were 24,470 tons, including 9973

tons from Australia. The exports for the month were 3310 tons.

Spelter.—The spot quotations for spelter, as cabled from London, have run as follow:—March 4, £25/-; March 9, £25/7/6; March 16, £25/0/0; March 23, £25/3/9; March 30, £25/0/0; April 2, £24/18/9.

Tallow.—Following are the statistics for March and particulars of the latest auction sales:—

Mar.	Casks	Date	Casks Offered	Casks Sold	Mutton Med.. per cwt.	Beef Med. per cwt.
Imports	670	Mar. 7	NH			
Deliveries	1271	" 14	449	238	35/-	35/-
Stock	2332	" 21	502	480	35/-	35/6
		" 28	NH			

Travellers

In Queensland.

Mr. Oliver M. Tibbitts reached Brisbane on April 1 with complete ranges of samples from his various British principals.

Mr. H. Clifton Jones, of 52 Carrington-street, Sydney, will be visiting Brisbane immediately after Easter, and at the C.T.A. rooms will be showing sample ranges of hardware and crockery together with tools from Carl Dierkes, Remscheid, and Val d'Or, Paris.

In South Australia.

Mr. R. B. Shiels, of Oliver M. Tibbitts, Melbourne, leaves on April 9 for Adelaide, where he will show a set of this agent's samples and then go on to Perth.

In Victoria.

Mr. P. A. Lyttle, of Walter A. Cox Ltd., 195 Clarence-street, Sydney, will be in Melbourne during the months of April, May and June with a complete range of samples on behalf of overseas principals. His address will be Commerce House, Flinders-street.

In Western Australia.

Mr. Colin Maxwell leaves for Perth on April 8 with a full range of samples on behalf of Ewald Ahrem and expects to return to Sydney early in May.

Mr. W. R. Volum, of W. R. Volum & Co. Pty. Ltd., 294 Little Collins-street, Melbourne, will be at the rooms of the Commercial Travellers' Association in Perth during April with full ranges of Kienzle clocks, and tools and cutlery from Richard Abr. Herder, of Solingen.

To Europe.

Mr. Oliver M. Tibbitts, of Sydney and Melbourne, leaves on a business trip to England, on May 29, by the R.M.S. "Orsova."

Mr. C. E. Mayo, of 209a Castlereagh-street, Sydney, leaves for Melbourne on April 11 in the interests of his many principals. He will continue his business trip to Adelaide and Perth, from which city he will embark on the R.M.S. "Chitral" for London on May 24. Mr. Mayo is chairman of the N.S.W. branch of the Association of British Manufacturers and their Representatives, and during his six months' absence their affairs will be looked after by the vice-chairman, Mr. Walter Anderson, managing director of the Eagle & Globe Steel Co. Ltd.

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney Mar. 31	Melbourne Apr 3	Adelaide Mar 30	Brisbane Mar. 30		Duty	Sydney Mar. 31	Melbourne Apr. 3	Adelaide Mar. 30	Brisbane Mar. 30
Pig Iron ...	2 1/2, 40/	£	£	£	£	Zinc—	£	£	£	£	£
British ...		...	7 5/	7 10/	...	Sheet 9 to 18g	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.
Swedish ...		...	7 5/	...	...	(7 x 3 & 8 x 3)		49/	7	...	5/6
Lithgow ...	7 10/	...	7 5/	...	...	Perforated	35%, 45%	32	...	54/	...
Newcastle ...	7 10/	...	7 5/	7 10/	...	Spelter	10%, 20%	301. 10/ to 37	41 10/ to 42	...	40/
Bar and Rod	44/ 120/	23 basis	English 21	17 10/	22. 10 basis	" Brazing	25%, 40%	1 9/	1 5/	...	1 9/
Australian ...	...	...	18/6	...	...	Bolts & Nuts—		75/ 59/	63/ 47/ 41/	...	...
Mild Steel	44/ 120/	19 10/ basis	19/ basis	19	18	Cuphead	35%, 50%	76/ 57/	61/ 46/ 39/	...	26/3 to 73/
Bar ...	...	19 10/	18	19 10	19	"		70/ 54/	56/ 43/ 37/	...	...
Angles ...	...	21	18	20 10	20	"		65/ 49/	52/ 39/ 35/	...	...
Tees ...	F., 10%	20 basis	19 basis	19	24/ basis	" 6 1/2 to 9"		61/ 47/	49/ 38/ 34/	...	...
Hoops ...	...	29/9 basis	35	33/	32 10/	" 9 1/2 to 12"		59/ 45/	47/ 36/ 32/	...	...
Black ...	...	26	24 10/	25	27 5/	Tanks, 400-gal.	Free	3 10/	3 10/	...	5 7 6
Galv. ...	20/ 60/	27 10/	26	26 10/	28 15/	200-gal.		...	...	...	3 10 0
Galv. Corr. 24g.	...	...	...	...	...	Tubing—	F., 10%	55 off list	55% off	53% off	List 45% off
Orb 26 g ...	...	...	...	...	...	Black, up to 3"		...	60% off	58% off	5% on
"	...	...	...	...	...	" 3 1/2 up to 3"	27 1/2	50	55% off	46% off	40% off
Phoenix Cr.	20/ 60/	30/	28	26 5/	28	Galv. up to 3"	27 1/2	40	37 1/2 off	37% off	5% on
Galv. Plain 24g.	...	...	26 5/	27 15	28 15/	" 3 1/2 up to 8"	27 1/2	...	5% off	...	25% off
Queen's Hd.	...	...	25 15/	27 15	28 15/	" 8 1/2 up to 12"	...	...	10% on	...	15% on
Phoenix Cr.	...	26 5/	25 15/	27 15	28 15/	Wright boil.	F., 5%	...	...	...	5/
Fleur-de-lis	...	...	...	...	40	Explosives—	10%	1/-	10d.	1/-	1/1
Other	...	...	...	...	...	Hall's C.C.		10d.	10d.	11 1/2	1/1
Sheet	F., 125/	26 basis	25 basis	25 15	26	Curtis's		10d.	10d.	...	1/1
Black	...	B26, G34 5/	26 10/	...	19	Chilworth's		10d.	10d.	...	1/1
Baldwins	...	...	...	...	...	Sporting	15%, 25%	3 6, 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/
Plate	F., 120/	17/- basis	15 basis	15	15 10/	Diam. S'less		10/	8/ to 8/6	8/3 to 8/6	5/
Steel	...	19 6	21	19	20/-	Amberite		8/6	7/ to 7/6	6/9 to 7/6	75/
Girder	...	...	...	...	...	Blast'g Gel.	F. 5%	72/6	74/6	74/6	78/6
Fencing Wire	F., 120/	18 5/	18 5/	...	...	Gel. Dyna.		65/	66/	66/	71/-
American 8	...	19 5/	19 5/	...	...	Gelignite		56/ to 60/	56/ to 60/	54/6 to 58/6	62/ to 66/
Austra'n 8 Bl.	...	15 12/6	15 15/	15 10/	15/10	Dynamite		51/ to 57	51/ to 57/	46/6 to 51/6	58/ to 102/
" 10	...	16 12/6	16 15/	16	16/10	Detonators	15%, 25%	55/	55 to 60/	60/ to 85/	90/
Galv. 8	...	17 17/6	18	17 10/	18	Shot—Chilled	5/ 6/	63/6	61	71/	...
" 10	...	18 17/6	18	18	19	Australian		61/	56	...	1/6
" 12	...	20 2/6	19 10/	20	20	Cyanide Pot.	Free	1 4	1 6	...	9/-
Barbed Wire,	68/ 180/	24	...	...	25 10/	Quicksilver	Free	7/6	5/	5/8	18/6
Arner'n. 12-g.	...	25 10/	...	...	26 10/	Sash Weights	35%, 45%	15/	18/	16/6	60
" 14-g.	...	24 10/	...	...	25 10/	Sheep Shears	F. 10%	62/6	65/	60/	21/ cask
Aust'n. 12-g.	...	24 10/	23 0/	24	25 10/	Cement—Imp't'd	20%, 30%	25/ cask	21/	21/-	6/6 bag
" 13-g.	...	26	24 10/	25	26 10/	Aust. (bags)		...	18/	7/-	50/ cask
" 14-g.	...	...	25 10/	26 10/	26 10/	Plaster, Imp.	1/6, 2/c	37/6 K.W.	35/	47/6	18/ bag
Wire Netting	F., 200/	...	...	...	...	Aust.		Pixie 35/-	8/	9/3	...
36 x 1 1/2 x 17	per. ton	...	36 15/	28	...	Slates (20 x 10)	30%, 40%	...	...	...	58/
36 x 1 1/2 x 18	...	...	29	35	...	White Lead	8/ 10/ or	63/6	63/	64/-	55/6
42 x 1 1/2 x 17	...	...	49 15/	...	New	Imported	25%, 30%	57/	56/	60/	72/ to 80/
42 x 1 1/2 x 18	...	...	41	33	List	Australian		...	70 to 100	...	Colonial 56.
42 x 1 1/2 x 19	...	22 1/2 to	...	33 10	...	Zinc White	20%, 30%	...	...	...	...
36 x 1 1/2 x 17	...	25% off	34	...	...	Oils—		...	...	...	...
36 x 1 1/2 x 18	...	list	35	...	10 to 15%	Linseed (raw)	9d., 1.	R5/3	5/6	Drs., 5/9	5/2
36 x 1 1/2 x 19	...	...	28	...	Off List	Imported		C4/8 D5/8	C., 4/	Drs., 4/11	4/6
36 x 2 x 18	...	...	22 10/	23	Off List	Australian		...	...	...	...
36 x 2 x 19	...	...	20	20 15/	Off List	Colza	6d., 8d.	...	6/-	...	...
Nails—						Burning	9d., 1/	C 6/6	6/3	6/9	7/9
Horseshoe	12/ 15/	Less 10%	to 1 1/2 lb.	1/ less 10%	List Price	Castor	4-cases	...	8/	...	...
" Austn.	...	...	List	...	...	China	2s., 2/6	...	8/6 to 10/	...	10/
Wire	5/6, 8/	28/6 basis	18/ to 20/	24/6 to 35/	29/- basis	Cotton seed	6d., 8d.	...	13/	...	12/6
" Austn.	or 25%, 35%	...	...	...	...	Kero.—C.O.R	Free	13/	13/6 to 14/6	13/	12/6
Roofing—	5/6, 8/	65/- cwt.	65/cwt., 9/6	9/-	11/	Laurel		13/	13/6 to 14/6	13/6	12/6
Evenden	...	...	...	...	38/	Light of Age		13/	13/6 to 14/6	13/	12/6
Lead-head	...	...	...	...	...	Pennant		13/	13/6 to 14/6	13/	12/6
Block Tin	Free	£244/10/-	250	2/7	3/	Turpentine	F.	5/-	4/9	6/	6/6
Tin Plates,	...	...	...	...	...	Substitutes	1d., 1d.	3/	18/ per case	2/8	2/6
28 x 20—	F., 10%	112's 60/-	62/6	112's 52/6	27/	Shellac	6d., 9d.	3/6	2/6	3/4	3/-
I.C. Coke	28 x 20	56s	70/	...	42.	Whiting—		...	...	...	...
I.X. Coke	...	...	...	...	...	English		8/-	8/6	9 10/	£12 ton lots
Pig Lead	Free	25/6	25	31	37/10	Colonial		6/3	4/9	5/	26/6
Austn.	...	...	...	...	...	Resin, G grade	Free	32/6	32/-	30/	...
Sheet Lead	10%, 20%	39/	50	43/6	49/	Carbide—	80/ 150/	32/6	32/10	29 5/	29 7/6
Dampcourse	...	...	...	...	...	" I X L "		34/	32/6	33 10/	33
2 lb.	...	4 1/2 6/6	48	...	...	Scandinavian		...	...	...	...
3 lb.	...	4 1/2 9/9	47	...	...	Canadian		...	...	...	...
Lead Pipe—	10%, 20%	...	...	...	...	Japanese		...	...	...	...
1/2 to 2 in. coils	...	44/	47 10/	46 5/	59/	Bluestone—	100/ 200/	37/6	36/-	...	40/
Lengths to 5'	...	46/	52	48 15/	60/	Macclesfield		36(1 cwt c/s)	...	37/6	...
Compo. 1/2" up	...	49/	51	48 10/	72/	Australian		...	...	...	...
Copper—	...	...	...	...	...	Japanese		...	1/5	60/-	...
Ingot	...	...	70	78/	10d.	Stock. Tar, 42 g.	25%, 35%	...	...	...	...
Sheet	25%, 40%	1 7/8	1 7/8	1 7/8	1 7/8	Woolpacks—	Free	4/6	4/6	5/9	4/7
Brass	...	...	...	...	...	42 x 1 1/2		...	...	...	...
Sheet	25%, 40%	1 3/4	1 2 to 1 6	1 6	1 6	54 x 1 1/2		...	...	...	...
	...	...	...	...	...	Corn sacks—	Free	10/	12/6	11/6	10/9
	...	...	...	...	...	2 1/2 lbs.		8/11	10/6	10/-	10/7
	...	...	...	...	...	Branbags	Free	...	...	...	...

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

Firms Registered.

Art Spencer, The Ironmonger, ironmonger, 88 Anzac-parade, Kensington; proprietor: Edward A. Spencer.

Taylor & Wearing, ironfounders, 28 George-street, Redfern; proprietors: John N. Breden, Benjamin E. Taylor, and John W. Maund.

Moseley Brand Aluminium Hollow-ware Co., aluminium and general spinners, The Mall, South Hurstville; proprietor: Alfred C. Silvester.

Company News.

Warburton, Franki Ltd. announce that the capital of the company has been increased from £50,000 to £100,000 by the creation of 50,000 £1 shares.

Yates-American Machine Co. (Australasia) Ltd. have been registered with a capital of £1000 in £1 shares. Objects: To carry on the business of machinery, hardware, metal and ore merchants, etc. Subscribers: Milton F. M. Johnson, Mario A. Macbeath, Horace Bennett, Alexander R. Macgregor, Cedric C. Holding, Geo. H. E. Lynch, and Chas. W. Alexander. Reg. office: Sydney.

Durham Duplex Razor Co. of Australia Ltd. have been registered with a capital of £5000 in £1 shares. Objects: To carry on the business of dealers in, manufacturers, and importers of cutlery, razors, tools, and all kinds of steel, plated, or other metal goods, etc. Subscribers: Edward Borton, C. E. C. Lupton, Ilma E. Borton, J. A. McCraw, George Muir, G. E. Stewart and J. Lavenstein. Reg. office: Sydney.

C. L. T. McDonagh Ltd. have been registered with a capital of £15,000 in £1 shares. Objects: To acquire the business of general merchants and storekeepers now carried on at Canowindra under the style of C. L. T. McDonagh. Subscribers: Charles L. T. McDonagh, Charlotte McDonagh, Charles S. McDonagh, Charles A. L. McDonagh, Barbara J. McDonagh, Jean McDonagh, and Mary S. McDonagh. Reg. office: Canowindra.

Stock Motor Ploughs Ltd. have been registered with a capital of £5000 in £1 shares. Objects: To adopt a certain agreement, and to acquire an exclusive selling right of the products manufactured by the Stock Motorflug A.G., Berlin, Germany, during a period of five years, with the option of an extension, etc. Subscribers: Rudolph A. Granowski, Hildegard M. Granowski, Bruno G. Granowski, Florence Lodge, Oliver Lodge, John D. Lodge, and Felix J. Lehané. Reg. office: Sydney.

New Zealand

Company News.

A. T. Eades Ltd. have been registered with a capital of £310 in £1 shares. Objects: To carry on the business of a brass foundry and general incidental. Subscribers: W. Clapham, A. T. Eades, H. H. Lockie, and J. R. Lockie. Office: 97 Taranaki-street, Wellington.

SKF Ball-bearing Co. (N.Z.) Ltd. have been registered with a capital of £1000 in £1 shares.

Objects: to import, export, purchase and acquire, deal and trade in, fit, assemble, manufacture and repair ball and roller bearings and accessories and incidental. Subscribers: G. Petro and F. Jakobsson. Office: Office of J. Chambers & Sons Ltd., Cable-street and Jervois Quay, Wellington.

Metters (N.Z.) Ltd., in their first report disclose a loss of £21,220, including £2,874 written off goodwill, which now stands in the balance-sheet at £11,406. A subsidiary of Metters Ltd. (Australia)—which regularly pays dividends of 7 and 10 per cent. on preference and ordinary capital—the company was formed to acquire the recently-established factory at Petone of Standard Porcelains (N.Z.) Ltd., and commenced operations in November. The directors state that, unfortunately, the results were not satisfactory. A new moulding shop was erected, and machinery was introduced to replace hand-moulding of bath castings, but the staff of workmen being unaccustomed to the class of work, initial difficulties were inevitable. "However," the report concludes, "it is confidently expected that the company will make satisfactory progress during the coming year."

Queensland

Fowler & Co., general hardware merchants, Home Hill, have been registered under the Firms Act; proprietors: Thomas R. Fowler and Annie Fowler.

Company News.

The British Imperial Oil Co. Ltd. announce that the name of the company has been changed to The Shell Co. of Australia Ltd.

H. J. Richards Ltd. have been registered with a capital of £2000 in £1 shares. Objects: To carry on all or any of the businesses of wholesale or retail ironmongers, plumbers, furniture dealers, storekeepers, manufacturers, importers, wholesale or retail dealers, etc. Subscribers: Seymour D. Tozer, Henry H. Stone, Norman A. D. Harris, James A. Masterton, Grace E. Crofts, Rachel Mann, Sarah A. Richards, and Henry J. Richards. Reg. office: Russell-street, Toowoomba.

South Australia

Company News.

Universal Importers Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire and take over as a going concern the business now carried on at Adelaide under the style of H. J. Schlenk & Co., to adopt and carry into effect a certain agreement and to carry on all or any of the businesses of importers, exporters, warehousemen, merchants, ship and insurance brokers and agents, mechanical and electrical engineers, contractors, and to buy, sell, manufacture and deal in machinery, tools, appliances, and hardware of all kinds, etc. Subscribers: Henry Jacob Schlenk, William Ashley Norman, Ernest Elwyn Edmund Scarfe, George James Ware and Constance May O'Halloran. Reg. office: Offices of John F. Kay, Reid & Co., Steamship Buildings, Currie-street, Adelaide.

Victoria

Martindale & Sons, timber and hardware merchants, builders, undertakers, etc., Lloyd-street, Dimboola, announce that Robert Martindale has retired and that Robert Harvey Martindale, Peter Martindale, and Marguerite Love Martindale have become members of the firm.

Company News.

Steel Union Co. Pty. Ltd., manufacturers' agents, have been registered with a capital of £10,000 in £1 shares. Subscribers: Howard Freeman Hudson and Cyril Lindsay Sandars.

Satam (Australia) Pty. Ltd., ironfounders, mechanical engineers, etc., have been registered with a capital of £10,000 in £1 shares. Subscribers: Jean Robert Borotra and Charles Daniel Lefevre. Norman Brooks is also a director.

Howard F. Hudson Pty. Ltd., manufacturers' agents, etc., have been registered with a capital of £10,000 in £1 shares. Subscribers: Howard Freeman Hudson and Cyril Lindsay Sandars. Reg. office: 380 Bourke-street, Melbourne.

Cougles' Stores Pty. Ltd., general storekeepers, have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business of Ernest Cougle at Koo-wee-rup. Subscribers: Ernest Cougle, Annie Martha Cougle, and Clarence Robert Glenelg Livock.

Victoria Safe Co. Pty. Ltd., engineers, safe manufacturers, etc., have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business of The Victoria Safe Co. Subscribers: Isaac Holt and William Holt. Reg. office: 152 Victoria-street, East Brunswick.

Harry O'Neill Pty. Ltd., general merchants, etc., have been registered with a capital of £10,000 in £1 shares. Objects: to acquire as a going concern the business carried on by Harry O'Neill. Subscribers: Harry O'Neill, Katherine O'Neill, James Leigh O'Neill, and Alexander Jack O'Neill. Reg. office: High-street, Wodonga.

Bourke Engineering Co. Pty. Ltd., mechanical engineers and manufacturers of agricultural implements, etc., have been registered with a capital of £15,000 in £1 shares. Objects: To purchase from John Bernasochi certain machinery, plant, material, and patent rights. Subscribers: Edmund Bourke and John Bernasochi. Reg. office: 37 Albert-street, Footscray.

Eclipse Wheels Ltd., ironfounders, mechanical and general engineers, etc., have been registered with a capital of £50,000 in £1 shares. Subscribers: John Henry Daymond, Frederick Wesley Reeves, Archie Charles Peacock, Peter Johnstone, Jack and Edward Arthur Callaway. Alfred John Read is also a director. Reg. office: 273 Collins-street, Melbourne.

The Charlton Foundry Co. Pty. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business of coachbuilders and agricultural implement and machinery makers, carried on at Charlton by The Charlton Foundry Co. Subscribers: Alfred Dabron, John Binder, Alfred Charles Dabron, and Edmund Robert Francis Dabron.

Glover & Mitchell Pty. Ltd., engineers, iron and brass founders, etc., have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business carried on by Alfred William Henry Glover and Alfred George Michell. Subscribers: Alfred William Henry Glover and Alfred George Michell. Reg. office: 204 High-street, St. Kilda.

Foy & Gibson Pty. Ltd. are now in part occupation of their new city stores at the corner of Bourke and Swanston Streets, Melbourne. The premises vacated by various tenants have been remodelled and fitted up for the use of the new proprietors. So far it is the softgoods side of the business mainly that is represented at the new address, but later on the hardware and tools department will also be included.

D. & W. Chandler Ltd. held their sixth annual general meeting on March 16, with Mr. W. H. Chandler presiding. Moving the adoption of the report and statement of accounts, the chairman said the Flinders-lane branch of the business had been established for more than a year, and was making fine progress. A branch had also been opened in the Western district, and promised to become a success. The foundry and engineering department was crowded with goods waiting to be sent away and a three-storey building in Victoria-street would have to be erected at a cost of between £3000 and £4000.

Western Australia

P. Jones has purchased the grocery and hardware business of J. & T. Miller, 595 Albany-road, Victoria Park.

British Imperial Oil Co. Ltd., Perth, announce that the name of the company has been changed to The Shell Co. of Australia Ltd.

A. P. Tunbridge has purchased the hardware, crockery, stationery and fancy goods business of W. Wickham, 67 Eighth-avenue, Maylands.

Howells & Son, general storekeepers, Argyle, have been registered under the Firms Act; proprietors: Charles Millen Howells and Stanley Howells.

Meggitt Ltd. (incorporated in New South Wales) have their registered office at Elder-place, Fremantle. Frederick Dunstan Byrne is the attorney.

Agents and Agencies

Cheetham & White Pty. Ltd., of 366 Bourke-street, Melbourne, have appointed J. L. Jamieson & Co., of Charters House, 309-311 George-street, Sydney, to represent them in New South Wales in respect of all their agencies.

Norman Baker & Longhurst Ltd., of 50 York-street, Sydney, and 234 Flinders-lane, Melbourne, are the Australian representatives of Froggatt & Tyler Ltd., Bilston, who are makers of stamped, tinned, galvanised and japanned hollow-ware. Mr. M. Scott-Young, of Manners-street, Wellington, is the New Zealand agent.

Slade, Allan & Co. are now in occupation of the premises at 235-39 George-street, Sydney, formerly owned by F. Lassetter & Co. Ltd., and since remodelled to the order of the firm. Here they engage the first and second floors as offices and sample rooms. The private office of Mr. W. H. Slade was entirely furnished by the staffs of the Sydney and Melbourne offices, much to his surprise and appreciation.

Fine Discrimination.

"Professor, would it be an insult if I said 'ass' to you?"

"Yes, certainly."

"And if I said 'Professor' to an ass, would it be an insult?"

"No."

"Thank you very much, Professor."

How It Was Done.

"If you collect this money," said the hardware merchant, "I will give you a regular job."

To the merchant's astonishment the young man returned in half an hour with the money.

"How did you do it?" he gasped.

"I told him," said the young man, "that if he didn't pay me I would tell all his other creditors that he had paid."

Machinery

Shell Type Motor.

A squirrel-cage motor for use in various kinds of wood-working and other machinery requiring high-speed motors, has been placed on the market by the Lincoln Electric Co., of Cleveland, Ohio, U.S.A. This motor is of the so-called shell type, of all-welded design, and is made in two sizes of 3 and 5 h.p. to the standard dimensions of the trade.

The 3 h.p. unit has an external diameter of 6½ in., and an external length of 4½ in. The 5 h.p. model is of the same diameter with a length of 6 in. Both motors are manufactured for 2 or 3 phase, 60 cycle current, and have a rated speed of 3600 r.p.m. The stator is composed of laminated sections arc-welded together, the welding being done while the shell is under pressure, and is placed in six traverse slots. The rotor also is entirely arc-welded, and is provided with either a straight or tapered bore.

Several advantages are claimed for the welded construction. The welding does away with the necessity of a solid shell about the laminations, and also replaces the conventional rivets. Thus, the amount of active field is kept at a maximum. The effect of this is to increase the magnetic flux and allow more copper to be used in the slot. As a result, better operating characteristics are obtained, together with cooler running conditions because of the increased amount of copper.

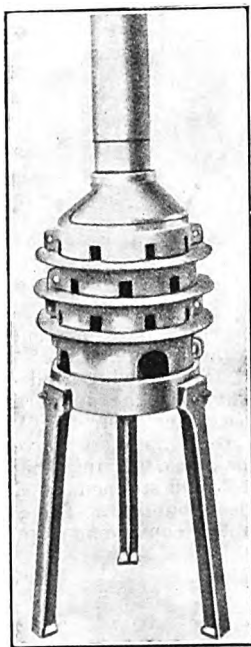
As normally used, the stator is secured in the frame of the machine, and the rotor is mounted on the tool shaft. If desired, the stator can be supplied with 6 ft. leads.

Tool Furnace.

The Hardy Patent Pick Co. Ltd., of Sheffield, England, are marketing the Todd furnace, which is intended for use in the hardening of chisels, drills and other tools.

Advantages are claimed on the grounds of portability and economy, both in cost and fuel consumption. Burning small coke, breeze or coal, the furnace will take 24 tools in three tiers of eight holes, usually measuring 1½ x 1 in. At each tier is a ring by which the holes may be covered at will, enabling only one or two tiers to be used if desired.

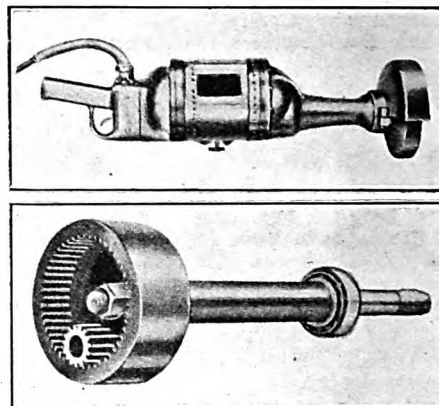
The body of the furnace is of cast-iron lined with silica fireclay 1 in. thick. A bottom plate of silica fireclay is also provided to protect the base from the heat of the fire. The rings controlling the apertures are malleable iron castings in halves belted together. At the bottom of the body are four arch-shaped holes for draught and a loosely fitting malleable iron band for adjustment. At the top the body is conical, and an opening is provided for the introduction of fuel. This also has a ring fitting. A 5 in. cylindrical flue is provided for the waste fumes outlet. The weight of the furnace complete is 2 cwt.



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Portable Electric Grinder.

The Black & Decker Manufacturing Co., of Towson, Md., U.S.A., have introduced two sizes of a portable electric grinder employing an improved form of internal gear drive. With this special drive the diameter of the gear housing is reduced because of the placement of the gear centres.



This gear is of sturdy construction, resulting in great strength and long wear. It is little subject to distortion from heat-treating, and is smooth in operation. The wheel spindle is supported at each end by tapered roller bearings to take both radial and thrust loads from the wheel. The ventilation holes of the motor have been so placed as to protect the windings from sharp particles of grit that may be drawn into the motor with the ventilating air.

The motor employed is of the universal type. The second or lower of the two illustrations shows the internal gear drive of the grinder.

Combination Fuse Puller and Screwdriver.

The Trico Fuse Mfg. Co., of Milwaukee, Wis., U.S.A., have introduced a combination fuse puller and screwdriver known as the "Midget."

The tool, having a scissors action, is made of horn fibre and is 5 in. long. One end has gripping jaws for handling cartridge fuses ¼ to ½ in. in diameter. The other end has a screwdriver for use on small screws, such as are found on electric sockets, plugs and the like.

Short circuits are prevented as the only metal part is the screwdriver, which extends ¾ in. beyond the end of the handle.

Electric Drill.

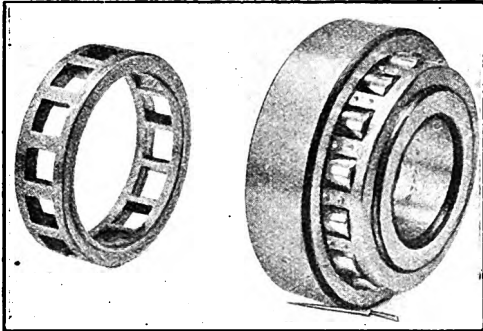
The Black & Decker Manufacturing Co. of Towson, Md., U.S.A., have recently placed on the market a special ½ in. electric drill.

It is light in weight, easy to handle, and is so high-powered that a man cannot stall it when drilling up to its maximum capacity in steel. Its nominal spindle speed is 400 r.p.m. This low spindle speed, together with its power, makes it particularly useful for millwrights, electricians, garagemen, small shops and all general drilling uses.

The tool is built on the lines of this company's portable drills, and is furnished complete with cable, attachment plug and three-jaw gear chuck. The chuck key holder is placed in the handle. The cable has three wires permitting one of them to be a ground connection.

Roller Cage for Roller Bearings.

In their roller bearings the Auto Machinery Co. Ltd., of Coventry, England, are now employing roller cages, by which, it is claimed, a higher mechanical efficiency is obtained from the bearings.



The cage consists of a solid bronze-alloy ring which is located on the outside diameter of the inner ring. Due to its construction, the cage not only retains the rollers, but holds them square for running purposes.

As no allowance has to be made for rivet holes, the maximum number of rollers can be fitted, and a solid one-piece cage is possible. These cages are supplied to fit all standard size roller bearings manufactured by this company.

The Australian representative is Mr. Howard F. Hudson, of Melbourne and Sydney.

Small Socket Wrench Kit.

The Husky Wrench Co., of Milwaukee, Wis., U.S.A., have developed a wrench kit known as the No. 999 "baby" set. It is designed to fit little bolts and nuts, such as are found on carburettors, magnetos, and radio and electrical parts. The set has all the features found in the larger Husky wrenches—hardened and tapered sockets, long handles, and swivel grips.

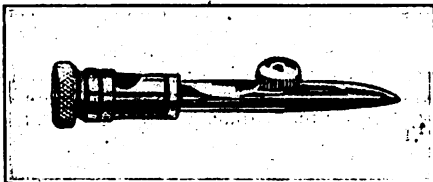
The sockets are made to fit the new American standard bolt and nut sizes. The two small square sockets can also be used for holding small taps with square shanks. The socket sizes are $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $1\frac{1}{8}$, $1\frac{1}{4}$ in. hexagon, and $\frac{1}{4}$ and $\frac{1}{2}$ in. square. All sockets are stamped with the size of the wrench opening.

The combination T has a self-locking head and a handle 5 in. long with a centre groove. The screw-driver is $4\frac{1}{2}$ in. long and has a swivel grip to facilitate speedy operation. It can be used with a combination T or with the L handle.

All parts are nickel plated and finished, and the set is packed in a compact and strong metal box.

Pen Attachment for Dividers.

The Brown & Sharpe Manufacturing Co., of Providence, R.I., U.S.A., have introduced a pen attachment for use with their universal divider, No. 843, with the No. 845 steel beam trammels.



The knurled handle from a trammel can be screwed in a tapped hole in the pen attachment. This device is well made and is useful for enabling the draftsman to draw accurate circles, arcs and fillets.

Mr. Howard F. Hudson, of Melbourne and Sydney, represents the firm in Australia.

Electric Plug Pulling Device.

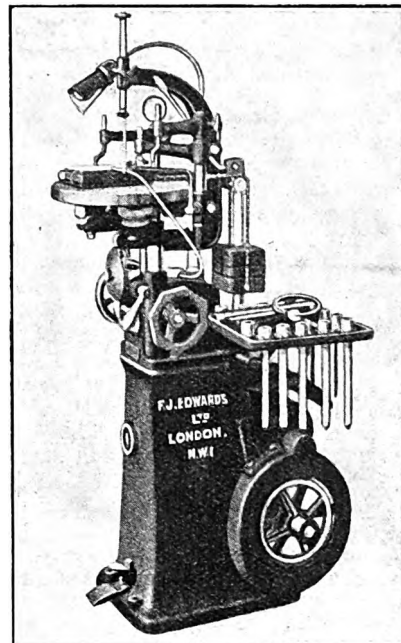
The Ren Manufacturing Co., of Lyncem Building, Winchester, Mass., U.S.A., have patented a device for separating electric plug caps from the sockets without touching the wire.

It consists of a cap which can be slipped on to plugs of any style or make, the cap being tightened by compression by a screw. The device has two projecting curved arms to serve as a convenient grip for the fingers.

Known as the "Pull-a-Plug," the device also serves as a shield and protects the plug from breakage. It is finished in black Japan to match the hard rubber or composition plug.

Filing and Sawing Machine.

F. J. Edwards Ltd., of 406 Euston-road, London, N.W.1, have placed on the market a combined filing and sawing machine.



It is particularly adapted for the production of punches, dies and cams, and other intricate shapes more easily produced by the vertical method of sawing. Forms can be closely cut enabling, in some cases, the metal cut out from the die to be used as the punch.

The machine has a maximum stroke of $4\frac{1}{2}$ in., a depth of gap of $8\frac{1}{2}$ in., and the thickest material possible to cut is $3\frac{1}{2}$ in. The working parts are enclosed wherever possible to prevent the ingress of chips, dust and foreign matter. The sawing and filing arm has a double pillar support; the supports are hardened and work in enclosed steel bearings. Where possible ball bearings are used, the easy movement being further aided by a balanced driving shaft.

Work is instantly started and stopped by a foot pedal connected to a friction coupling. The stroke of the arm is adjustable, and a convenient means of operating is supplied by a large hand-wheel at the side of the machine. The table is vertically adjusted by a hand-wheel and is designed to swivel in a longitudinal or cross direction to give an angular setting of up to 15 degrees.

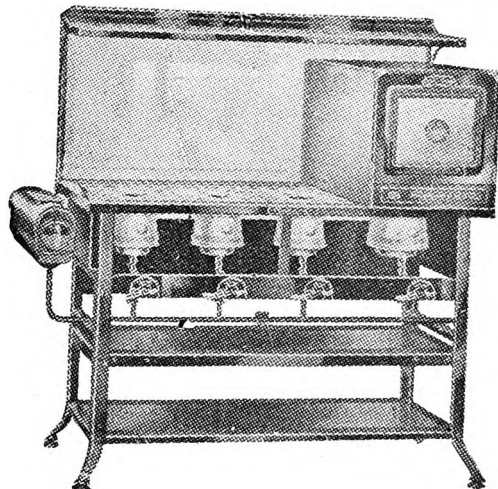
An air horse and pump provide a means of keeping the work clear. The number of strokes per minute can be varied up to 200, and files from 4 to 10 in. long may be accommodated. About $\frac{3}{4}$ h.p. is required for driving the machine, the net weight of which is 440 lb.

Household Ironmongery and Kitchen Utensils

Buyers' Notes for Retail Dealers

Sydney

Brandt's Ltd., of 236 Pitt-street, Sydney, are featuring the "Florence" cookers. These stoves are made in sizes varying from one to five burners, and



in addition to the oven ample cooking space is provided. A good selling feature is that the stove really burns gas generated from kerosene in the container, thus not only setting up greater heat than is obtainable from a flame stove, but eliminating such objectionable features as fumes and smoke. It is claimed that just as good results are obtained as from an ordinary gas stove at no greater cost, while the flame can be raised or lowered simply by a movement of a small lever. If desired the heat can be confined to the oven, or in addition directed to one or more of the other burners. Combination grillers and roasters, as well as covered roasters, can be supplied.

Other heating and cooking appliances are in wide assortment, including Primus stoves of different designs and sizes, kerosene and electric stoves. Radiators are numerous, prominent in the display being one of a convertible type which may be used either for heating the room or boiling water.

A small combination electric hot plate can be used as a griller and toaster, also to boil and bake, all the compartments being detachable. Gas, kerosene and chip heaters are a feature. The "Sterling" vacuum cleaner is a non-electric device having its own self-contained motor, which works as the apparatus is pushed to and fro. Another device noticed was an emery wheel knife sharpener which may be easily attached to the table and puts a keen edge on the blade.

The firm have always maintained a reputation for lighting appliances, and bigger and more varied stocks are now on hand. The Aladdin kerosene mantle lamp is simple and effective in use and gives a soft, white light comforting to the eyes. A benzene hurricane lamp may be used in all weathers, and it gives a 300 c.p. light at a cost of 3d. an hour. The firm specialise in the making of kerosene stoves for yachts and motor cars, the stoves being made to order to fit any space.

Briscoe & Co. Ltd., of 383-85 Kent-street, Sydney, are displaying the "Star" tin opener. It may be used for round or square tins, and also serves the purpose of lifting tins out of hot water, a slight compression of the handle giving such a firm grip that the tin may be easily lifted. Two handles, a key, a pair of cog wheels, and a cutting blade go to make up the instrument. The tin is opened by turning the key, the opener remaining stationary and the can turns while it is being cut. The device may be used as a bottle opener.

Double milk or porridge saucepans are available in two, three and four pint sizes, and maslin kettles come in 10, 11, 12, 14 and 16 in. sizes. One quart graduated measures are available in aluminium or enamelled ware. The "Judge" and "Goat" brands aluminium cover every kitchen utensil, including coffee and teapots, basting spoons, pudding basins, kettles, and so forth.

The "Aussie" vegetable strainer is a useful device. Being perforated and half-moon shape, it is placed over the top of the saucepan, permitting of the contents being easily strained. Thermos flasks and vacuum flasks are available in all sizes.

The "Krisk" bean stringer and slicer is made in household and hotel sizes. The apparatus is affixed to the table, and the beans are pushed through an opening. The strings fall separately from the rest of the bean. All the well-known brands of aluminium cleaners are in stock. China pudding bowls, pie dishes, teapots and salad bowls are available, as are canister sets and "Pyrex" ovenware.

W. T. Carmichael Ltd., of 336 Pitt-street, Sydney, are now making gas heaters with safety interlocking taps, so that the gas cannot be turned on until the water is turned on, and the gas must be turned off before the water can be turned off. Another feature is a small sink gas heater of the reversible type. The firm's own ice chests are enamelled inside and out and the special granulated cork packing insures the best insulation.

Since its introduction twelve months ago the patent coke oven, designed for country use, has made good headway. It is a fuel saver, and a special feature is that it is divided into three ovens. These can all be heated at the same time, or one or two may be so used as desired. The firm's gas stove carries a patent griller, whereby 40 per cent. increased efficiency is secured, special side pieces on the gas bar concentrating the heat on the griller. Coppers are a noteworthy feature, having a hole in the centre for the quick emptying of the container. Those in nickel finish look specially attractive.

John Danks & Son Pty. Ltd., of 324-30 Pitt-street, Sydney, have on hand the "Vacola" fruit preserving outfits for household use. Bottles and all the necessary appliances are supplied, and the operation of preserving the fruit is easily and simply performed.

The Lindsay bread knife cuts hot or cold bread and cake without crumbling, the teeth being small and sharp. Each knife is supplied in its own carton. British stamped roasters and general stocks of British tinware are a feature of the display. Aluminium hot water bottles, egg slicers, dish covers and bread and cake tins are available. All the well-known brands of enamelled ware are stocked,

including the "Savoury" double boiler. Soap savers and egg whisks, gauze fly traps, tea strainers and coffee pots are in wide assortment.

A weather strip is made for tacking round doors and windows to keep out dust and draughts. Oil stoves and room warmers are in wide variety as are gas and fuel stoves. Electric stoves and heaters are well to the fore, including different makes of radiators, together with the "Esse" enclosed fires. Ornamental coal scuttles are in copper, and square, helmet and other uncommon shapes are in stock. The "Glacier" ice chests and ice boxes are in strong force.

Farleigh, Nettheim & Co., of 80 Clarence-street, Sydney, have lately added a new department to their activities, and are now carrying stocks of Ahrem's tools, and Shelton's gardening requisites. Cutlery is extensively handled, the range including their own "Mimosa" brand stainless knives and forks, made of Sheffield steel, and with mirror finish.

The "Simplex" saw set, made by Ahrem, is a handy little device by means of which a saw may be set mathematically correct.

A new line is the "Maymore" aluminium ware in 16 and 18 in. gauge. "Tower" brand aluminium ware is also stocked and comprises all kinds of kitchen utensils.

Two makes of vacuum flasks have been added to stocks, one bearing the "Gezi" brand and the other unbranded. They are both priced at low figures.

W. S. Friend & Co., of 113 York-street, Sydney, are showing tin and aluminium roasters and bakers in different sizes. These cooking devices are becoming more popular, principally because meat so cooked is tender and juicy. The "Strongglass" vacuum flasks are made to hold one pint and two pints, the great selling feature being that the refills will take hard knocks without breaking. Enamelled teapots are on hand in a variety of colours, with jugs to match.

Glass table lamps are attractive, the pedestals being in different colours. The "Reprah" chip bath-heaters are made of galvanised iron and aluminium painted all over, including piping and attachments, and they also have copper nickel-plated lids, with wood knobs. The heaters are also made in nickel-plated or polished copper. Worthy of attention are the firm's own "Red Rule" brand flour sifters, their chief feature being strong construction and long wearing qualities. Aluminium saucepans bearing the "Red Rule" brand are also available. A complete range of cooking utensils is included in the "Longlife" brand of aluminium ware. "Judge" and "Goat" brands saucepans and kitchen utensils are prominent, as is the "Kenrick" brand. Speckled enamelled kettles and saucepans bear the "Neptune" brand and are largely stocked. A comprehensive range of household scales is available, and meat safes are in various sizes. Decorated canisters for all kinds of commodities are carried in large supply. Meat mincers, egg beaters, jelly moulds and salad bowls are included in a comprehensive range of household requirements.

Hannam's Ltd., of 134 Castlereagh-street, Sydney, are featuring their latest product, a machine for washing crockery. Fitted over the kitchen sink with the firm's patented spray, it thoroughly cleanses dishes as quickly as they can be handled. The "Rapid" water boiler is adopted for gas or kerosene and is made in sizes suitable for household, hospital, factory, warehouse and restaurant use. It is designed on the tubular principle, the water being boiled rapidly and economically. Four gallons of water can be boiled in fifteen minutes. The patent automatic water heater is made for giving an instantaneous supply of water to any part of the house. The patent Bunsen burner is automatically free from sooting or lighting back. The automatic gear controlling the gas and water is

automatically safe. When the water reaches boiling point the valves are automatically closed and the gas and water supplies cut off. Built on new principles, the boiler gives a continuous supply of boiling water only when the tap is turned on, and the gas and water are operated by an automatic control. For factories and restaurants, where a large supply of boiling water is required, an outfit is provided capable of supplying three gallons a minute.

S. Hoffnung & Co. Ltd., of 163 Pitt-street, Sydney, stock the well-known "Snow Cap" kitchen utensils and household ironmongery. Sold in sets, with a special "Snow Cap" display stand, they make an attractive feature.

A grand array of carpet sweepers is on view, including the time-tested "Ewbank" brand, half a dozen other makes also being stocked. The "Rid" scouring steel wool and soap for cleaning aluminium is available. Stocks are packed six to the carton, and display cards are supplied with orders. Popular bacon and bread cutters are stocked in four sizes for household and shop use, an ebony roller near the knife pushing forward the pieces that have been sliced.

New are the "Sterling," "Climax," and "Ruby" sewing-machines, all of which are of the New Home make. A combination wringer and mangle is a feature, and a number of other brands of wringers are available, including the "Eureka," with black japanned springs; the "Jewel," the "Universal," and the "Metropolitan." The "Beatrice" all-metal orange cutter is supplied with a crank handle. "Judge" and "Goat" brands enamelled ware are fully stocked, and a wide range of household and kitchen enamelled ware is available in other brands. Tinware includes egg beaters, strainers, cake dishes, flour sifters and such-like lines. All the well-known "Kande" utensils are in stock, and several popular brands of meat mincers are carried.

Keep, Macpherson Ltd., of 252 George-street, Sydney, have large stocks of all "Kande" kitchen and household utensils, the range comprising over one hundred different lines, and as several sizes are included, the total range covers every kind of utensil. One of these is a combination nutmeg grater, potato cutter, potato masher and slicer.

From another manufacturer comes a sanitary sink brush, the strong but flexible steel brushes being admirably adapted for cleaning purposes. A number of egg beaters are shown, including a "Kande" whisk and a "Taplin" double beater. The "Androc" bread toaster may be used on gas or fuel stoves.

All the leading brands of enamelled ware are on hand, the local "Kooka" make being prominent in the display. Saucepan stands are made with five, six and seven tiers. In cartons of six are the "John Bull" reversible mops. The "Just It" pan sinker and sink cleaner is a triangular-shaped article which brushes the bottom, side and corner of the pan at one operation, while at the other end is a thick rubber for cleaning up after the brushing. The "Cookie" spoon is made of aluminium with a wooden handle, and it serves a wide variety of purposes. It can be used as a fish slicer, for mixing batters, poaching eggs, separating the white from the yolk of eggs, mashing vegetables, and for a number of other purposes.

The "Cold Cap" drip safes have won their way especially in places where ice is not available. "Nupogs" are coming into favour, having advantages which wooden clothes pegs do not possess. For household use several makes of cake icing outfits are available, including sprays, brass screws, decorators, and linen bags.

The K.F.B. Foundry Ltd., of 310 Pitt-street, Sydney, are showing a series of electric refrigerators with capacities from five to 100 cubic feet. The

cabinets are available in all finishes, in white Duco, or in oak, with porcelain enamelled panels only, and in all cases they have seamless enamelled linings.

The K.F.B. hot-point electric ranges embody the well-known hot-point patent element, and are made in various sizes.

Water heaters cover a wide range, from those for smaller homes to types suitable for the largest hotels. Of special interest is the multi-point heater, which provides a complete automatic hot water service. Patents recently released have resulted in a substantial reduction in the price of the heaters. For those requiring large quantities of hot water the "Hot Flow" is available. All the heaters are made of solid copper, heavily nickel plated.

The "Advance" gas stove has a sealed heat oven, and by an ingenious arrangement the heat units travel from the gas frame at the bottom of the oven to the top of the oven and then pass downward before reaching the flue. The flue is placed on the centre of the oven back. The crown of the oven is backed. The holes in the burner are less than half the size of those in an ordinary burner. As a result the oven is heated to cooking temperature in less than half the time of other stoves, and the consumption of gas is less than half the amount required in other cases to maintain cooking temperature. The stove is available in three finishes, dull nickel and enamel, all nickel finish, and all enamel finish.

The "Capitol" stove, specially designed for and used by the Federal Capital Commission, is a handsome and efficient stove in which either coal or wood may be used. It is available in plain finish, all cast, or in "Berlin" finish.

Lyon & Milling, of 62 Clarence-street, Sydney, have had a new catalogue issued dealing with a large number of requirements, and copies may be had on application. A favourite line is the white handle kitchen utensils, embracing rubber plate cleaners, sponge trays, basting spoons, potato mashers, and similar articles. The latest addition to the list is a white-handled tin and bottle opener. The device is useful for opening tins at the top or side, a clip gripping the tin tightly and keeping the opener in position while the operation is in progress.

The "Husqvarna" bread and bacon slicer is available in two sizes for household and hotel use. A British metal frame clothes wringer is a new line with the firm. The W. & B. bread knife is made with the latest saw blade, the small teeth enabling hot bread to be cut with ease. Each knife is packed in a separate carton. Oyster openers are a good holiday feature. Saucepan stands of aluminium finish holding from five to ten saucepans are neat looking and take up little space. A popular feature is a kitchen clock to match the crockery, and having an octagonal shaped plate dial. The price is very low.

Nock & Kirby Ltd., of 188 George-street, Sydney, have taken over the distribution in N.S.W. of the "Quickfri" products. The range includes a number of pans and a kettle. Demonstrations are given of how a four-course meal can be cooked in a few minutes, the cooking medium being wood, coal, gas or anything that will generate heat. The pan is supplied with lid and cooking bucket, wherein the food is cooked, and although the foods come in contact they retain their own flavour and do not impart it to each other. The pans are made in three sizes.

Smith, Copeland & Co. Ltd., of 33-37 Regent-street, Redfern, are featuring the new "Aberdeen" camp cooker, or portable patent fireplace, which when folded occupies a space 16 in. x 12 in. x 1½ in. Standing on four legs, it has a grill on which the cooking utensils are placed, and there are flaps on

three sides. One or more of these can be kept up or down as desired so as to protect the fire from wind.

The "Polar" camp cooking kit is a four-party camping set packed in an aluminium pail, which contains cooking pot, coffee pot and frying pan, all with removable handles. In addition there are cups and dinner plates.

Webb's patent two-way knife is a handy tool for house or work room. It will cut petrol tins, kerosene tins and corrugated iron with a clean cut. A square hole can be cut in a corrugated iron sheet with the knife in four cuts, and a handy man can make all sorts of useful things out of kerosene tins.

The firm's folding meat safe and cooler is made from galvanised iron enclosed with porous cloth, which is kept damp and thus keeps food cool. The safe is ant and fly proof, and the folding cupboard and shelves can be used as a food safe and is protected with fly-proof curtain. The "Kampkook" is a camp stove with two burners, a cooking capacity for four or five persons, folded wind screen and fitted with oven for cooking.

Swans Ltd. are installed in their new home at 410-12 Elizabeth-street, Sydney, the building having been recently completed to their order. Given a prominent place is the "Steemkleen" family washing machine, made by Metters Ltd. It consists of a container, and in this is a vertical syphon tube with holes on two sides. The upper chamber is a double lid, fitted with a valve and outlet pipe. A loose, perforated, bevelled plate, with a central aperture, is fitted over the bevelled tube, and there is a similar plate at the lower end of the tube. At the bottom of the container is a sediment trap that keeps the clothes out of contact with the dirt already removed from the clothes and retained in the bottom. The soapy water is placed in the container and is brought to the boil. No more gas than will boil a kettle is required. The heated water passes up the tube and over-pours, fountain fashion, at the top on to the perforated plate. The water percolates back through the clothes, so establishing a circulating action. Simultaneously steam and water are ejected through the clothes under pressure through the jets in the central tube.

A porcelain sink and draining board combined has a hole in the centre for the quicker emptying of the sink. Similar in shape is an aluminium sink and draining board cast in one piece. A porcelain enamel top may be had for placing over an ordinary kitchen table. The tops are made in different sizes. The Austral gas coppers may be had in metal finish.

Melbourne

Blockey, Stone & Co. Pty. Ltd., of 268a Lonsdale-street, Melbourne, have landed shipments of aluminium utensils which embrace every household need. They show a good range of coffee percolators, which will enable retailers to clear a reasonable profit, and yet give excellent value. These are of various patterns, one being fitted with glass cover and of attractive appearance. Another line has a perforated spreader, making an additional selling feature which appeals to the buyer. Besides the usual articles of aluminium the double type of roaster is prominently displayed. Obtainable either round or oval, this appliance is a superior cooking vessel to the ordinary meat dish. There is less loss of weight in cooking, and the meat is better "eating" when done this way.

A selection of Sigg's saucepans, also of aluminium, has found quick sale. The shape is new, and a varnished wooden handle, ringed at the end, gives a "different" appearance to the ware which attracts at once. Australian aluminium is also represented. Many good articles of local make are now obtainable.

Other appliances for household use are family balances, one of which weighs up to 4 lb. by ounces, and then up to 25 lb.; several good patterns "Ideal" food choppers in four sizes; Clark's holloware; and polishing mops and accessories. The "Nighingale" mop is well known. This is stocked constantly, and gives every satisfaction.

The range of "Acme" wringers is also familiar to all buyers. The more recent design with iron frame is very strongly constructed, and is worth inspection for its value and utility.

Campbell, Walker & Co. Pty. Ltd., of 411-13 Lonsdale-street, Melbourne, carry many excellent lines of brass and copper interior furnishings. These are Australian made, and reach a high standard of quality. The present time is opportune for these goods, including, as they do, log and briquette boxes, firescreens, bellows, book racks, and book ends. The embossing and ornamentation are artistically done, a range of plaques and similar pieces being equal to the best specimens of the kind. Retailers who are not acquainted with this ware will find a visit of inspection well worth while.

A selection of brass candlesticks in period designs together with jardinières, in a number of shapes and decorations, is also on view.

John Danks & Son Pty. Ltd., of 391-403 Bourke-street, Melbourne, have amongst a range of household ware several new lines which should interest buyers.

One of the best types of kitchen cabinet we have seen of late is at present displayed in the show-rooms. The drawers and other fittings are practically arranged, while the various conveniences are so complete that it must appeal to the housewife. A feature is the ball-bearing rollers and tracking on the glass side doors, which open or close almost at a touch. A row of spice boxes is fitted at a convenient height, and lower cupboard doors have metal lined and ventilated containers. The white lacquered finish is easy to keep in spotless condition, while for those who prefer it, the same cabinet may be had in oak. Several different designs are available. This article should be seen by retailers, as construction and finish are excellent in every way.

Another useful appliance is the "Little Gem" ironing board. This is fitted into the wall when building, if practicable. It is housed in the kitchen and stands horizontally in the wall, occupying no space when not in use. A door is opened, and a small sleeve board or larger ironing board may be pulled into position in a moment. The electric plug is placed alongside for convenience.

Country people will appreciate the "Royal" self-heating petrol sad iron, a safe and handy type for places where electricity is not available.

In the kitchenware section a set of neat aluminium canisters, with red and white lettering, catches the eye. The round shape and fine finish make this an attractive display line.

Among stoves for both heating and cooking are the "Perfection" oil stoves, which represent one of the best of this pattern. There is also a McClary wickless oil stove, which gives a clean and strong heat with perfect cleanliness. For the winter season the "Excelsior" heating stove is one of the best. This is of the type used by the railways department—economical of fuel and sturdy of construction. The popular basket grate is in a great variety of designs and sizes.

Mention should be made of coir and wire door mats. The wire mat is now very popular. Its strength and ease of cleaning must impress the buyer. A selection of these would well repay the storekeeper. They are quite low in price. A stock of Westclox timekeepers, covering a big range, has been opened.

Hawkes Bros. Pty. Ltd., of Geelong and Melbourne, advise the opening of shipments of alumin-

ium ware comprising a complete range of kitchen utensils. Since the advent of this metal no other material rivals it for popularity. Its uses are extending to every household utility. Many new and attractive articles are included in this section. A compact and neat salt and pepper castor, in one piece, has screw cap, and is handy for picnics or motoring. This is one of many such little ideas. A heavy weight Swiss polished stewpan, with wooden handle, comes in sets of five. This is an exceptionally durable line, and of excellent appearance and finish. The firm's own "Corio" brand of aluminium stewpans is selected for a reliable quality, at a reasonable price. They are supplied in sets of five ranging from 1½ to 7 pints.

New stocks of enamelled ware are constantly arriving from British, Continental and Australian makers; saucepans, kettles, jugs and stewpans are all in large assortment. Amongst the popular "Judge" products is an enamelled tea set of four pieces, in various colours. "Pyrex" ware should not be overlooked. It is certain that this material will come into ever-increasing use. All the usual kitchen appliances may now be had in "Pyrex."

For cheap and handy articles tinware holds its own, and large supplies are always available. There are a host of useful sundries; slicers, ladles, tin openers. Soap savers are in either woven ware or perforated tin. Patty pans are both loose or in containers.

Convenient and good selling lines which should not be forgotten are paper lunch wrappers and paper towels. These will find ready sale at all times. Washing-day helps include the rotary clothes hoist, the Banner washing machine, and the "Wheel-ur-wurk" clothes basket vehicle.

J. S. Kidd & Co. Pty. Ltd., of 410-12 Lonsdale-street, Melbourne, advise the arrival of a selection of companion sets for the fireside. The designs are good, and several new ideas permit an attractive display to be made in preparation for the coming season.

In kitchen requirements a large range is available. Manufacturers are constantly reaching out for fresh patterns in aluminium and enamelled ware, and the trade was never better catered for. Leading brands of enamelled utensils, both British and other, are here. A special shipment of this ware has been landed, and is available in assorted case lots suitable for storekeepers. The price is keen, and the quality well up to standard. Large supplies are on hand of aluminium saucepans, kettles, stewpans, and other articles—in all sizes. The firm are making a special feature of the A.S.M. aluminium. This Adelaide factory is now turning out an excellent range of domestic ware, including saucepans in three different finishes—stock pots, stewpans, billycans, frying-pans, and, in fact, all kitchen appliances. Their casseroles and maslins are well made and finished, and the whole range is of a quality which leaves nothing to be desired.

Pyrex cooking utensils are here to stay. Their perfect cleanliness and transparency appeal to buyers, and no store should be without a selection. This firm have a complete range in all popular shapes.

Wire goods include "Dover" and "Ladd" egg beaters, as well as the "Dainty Whirl" and "Blue Whirl." The last mentioned has made many friends. In addition to its utility, the pleasing blue tone of the handle imparts an air of brightness in the kitchen, showing specially well against the white walls, which are approved by the housewife in these modern days. The "Blue Whirl" comes in compact display boxes, an enamelled hook being fitted to hang the package.

An opportunity is offered to retailers who require carpet sweepers. An American brand, with which the firm find themselves overstocked, is available at a reduction in price.

A year or two since a tinware factory was opened in connection with the business, and the management report that the venture has proved a complete success. Clients have been well pleased with the products, and every possible article of tinware is being produced. A large quantity of meat safes has been delivered during the past year, and the various designs which have been adopted with a view to Victorian conditions have been favourably commented on.

Fly killers again had a record season. Buyers will be wise to prepare early for next summer. Reliable preparations and appliances are "Regal" and "Kantimis" swatters, "Flytox," "Lotol," "Flit" and "Mortein" in patent lines, and "Gorgon" flypapers.

Thos. Mitchell & Co. Pty. Ltd., of 360 Lonsdale-street, Melbourne, are manufacturers of all household tinware, woodware, and basketware. Every type of clothes basket is offered, including those for soiled linen. Many stores do not stock these goods, but they represent a profitable section, and should be worth a trial.

Polishing mops are kept in several makes—"Punch," "O'Cedar," and "Nightingale"; all are reliable, and the various oils and spares are saleable accessories. What may be done in pushing this handy appliance is being well illustrated at the British Exhibition. Here a couple of demonstrators have been able to secure large numbers of sales from visitors by showing their many uses.

Winter approaches, and lamps will be good stock for the next few months. Here are all types of kerosene lamps, from the small bedside pattern to the table or hanging variety.

Amongst the woodware, step ladders or steps for household use are often overlooked. These are not expensive, and a few could be carried as a side line. A number of different sorts are now made, and every home can use one.

The firm draw special attention to a range of white enamelled ware which is constantly maintained in quantity. Every domestic utensil is on hand, and the prices are exceptionally low for a good class of material. "Judge" brand enamelled ware is another stock line, which needs no emphasising. It represents a standard of quality, and the cost is reasonable.

Other goods which may be mentioned are "Primus" stoves, kerosene heaters, and cooking stoves, and steel trunks of every kind. The latter are made in the firm's factory, and prices are "right."

George Russell Pty. Ltd., of 452-60 Flinders-street, Melbourne, stock Clark's English holloware in all lines. Stevens' pearl enamelled range is also carried—one of the best of its kind. Aluminium goods may now be had in every household utensil, and also in a host of small things such as pepper and salt shakers, kitchen spoons and forks and mugs. One set of aluminium saucepans which comes in sets of five, ranging from 1½ to 7 pints, is specially recommended. The quality is reliable and the value good. They are fitted with antique handles, giving a fine appearance; these are known as the "Empire" brand. Full supplies are always kept in tinware and enamelled goods.

Mops for polishing floors, and all accessories, are stocked in "O'Cedar," "No Dusta," and "Nightingale" makes. The household wringers usually handled are the "Acme," in their several qualities. The all-iron frame wringer recently produced by these makers has found complete favour with buyers. It is strongly made and stands the hardest wear. The reversible draining board is a great convenience. These are in "Metropolitan" and "Invincible" patterns.

Other lines featured are table and hanging lamps, all kinds, household scales, and kitchen woodware of every description.

Chromium and Its Expanding Uses

An interesting article on the subject of chromium, its production and uses, was published recently in the "Commerce Monthly," New York, from which the following extracts have been made:—

Chromium is a minor metal of expanding industrial importance. The comparatively recent discovery of processes of employing it as a plating material, somewhat as nickel is used, marks an outstanding achievement in metallurgy. Its more extensive volume consumption still lies in such diverse fields as the making of extremely hard and tough steel alloys, stainless steels, metal plating, in the refractory linings of open-hearth steel furnaces and in tanning, where it has supplemented and to some degree displaced the vegetable tanning materials.

While the properties of chromium have been known for many years, its military employment brought it into prominence during the war; since then it has continued to expand in usefulness. World production of chromite, the ore from which the metal is derived, was approximately 360,000 tons in 1926. This compares with a war-time maximum of 283,000 tons. Last year the United States took 215,000 tons, or about 60 per cent. of the estimated world output—more than four times the country's pre-war consumption.

The development of alloy steels possessing special qualities of hardness, toughness, strength and resistance to wear or corrosion which steel alone does not possess underlies much of the remarkable mechanical progress of recent years. Among the various alloying metals chromium is one of the most important, used either alone or in varying combinations with such other metals as nickel, tungsten or vanadium. The addition of a small percentage of chromium to steel gives the finished product intense hardness with a high limit of elasticity. High-speed cutting tools, bearing, crushing and grinding machinery, armour-plate and armour-piercing projectiles and safes are typical fields of use for chrome steel. When it is welded in alternate layers with wrought iron, a peculiarly resistant construction is obtained that defies both drills and blows.

The addition of somewhat larger percentages of chromium to steel provides an alloy that resists corrosion, while around 13 per cent. of chromium with 1 per cent. nickel makes low-carbon steel rustless. Steel containing 10 to 15 per cent. chromium is known popularly as stainless steel, which has already become familiar in household cutlery. It promises to have a broadening field of employment wherever steel is subjected to unusually corrosive conditions. Engine valves, marine equipment, builders' hardware, annealing boxes and ovens, chemical manufacturing equipment, papermill beaters and knives afford typical illustrations of the industrial applications of various chromium alloys. Its resistance, both to chemical action and to high temperature, also gives chromite a large field to use as a refractory for the lining of open-hearth furnaces, where it has largely displaced magnesite.

Chromium plating, developed commercially in the past two or three years, promises to be one of the most important metallurgical accomplishments in the field of protective coatings. Aside from its decorative character, two qualities of chromium make it particularly useful in metal-plating. Its resistance to the action of many acids and alkalis makes it a valuable protective covering, and its hardness even when applied as a thin plating on light bearings or other wearing parts greatly lengthens their life. It has been applied successfully on the most important nonferrous basis, which suggests the possibility of its wide usage. Already this new material has been used successfully in plating thousands of copper, brass, iron and steel articles for commercial purposes.

Electrical Section

Handy Water Boiler.

Mr. T. W. Sands, of 372 Lonsdale-street, Melbourne, has received stocks of a most useful little appliance, known as the "Eltron" electric water boiler. It consists of a cylindrical metal heater which, placed in a teapot, cup or jug, gives a small quantity of boiling water in a surprisingly short time. Offered complete with cord and plug, it sells at a price which ensures quick turnover. The "Eltron" is one of those handy little things which appeal to everyone.

Generating Electricity by Windmill.

The latest development in wind power, which makes electricity and pumps water on a large scale both at the same time or separately, as desired, is offered by Charles E. Miller.

The wheel is 15 ft. in diameter, has four blades, and is of the improved self-governing type. All the working parts are encased and run in oil, and all the bearings are of the latest ball type. The blades of the wheel not only produce power from the wind but act as a governor, as each blade weighs about 75 lb. and is held toward the centre with a heavy spring enclosed in the tube and compressed to 750 lb. All blades have the same type of spring.

The gearing enclosed in the hub causes the blades to all move out together and come back together and turn spirally as they go out, causing the wheel to change from a power wheel to a fan. This checks excess of speed, the speed of the wheel being regulated by the stiffness of these springs. If the wheel is set to run 100 rev. per min., it will run at that speed regardless of excessive wind pressure.

The electric generator is enclosed in the crank case housing as well as all the gearing of the pumping attachment. A wire screen around the ladder makes it safe to climb up on the platform.

Household Lines.

Falk, Stadelmann & Co. Ltd., of 380 Lonsdale-street, Melbourne, have recently landed a shipment of glass boudoir lamps, which, in addition to their attractive style and appearance, are quite low priced. The hand-painted or decorated designs are excellently done, and while the various figures and colourings are finely executed, there is an absence of that over-decoration which often detracts from an otherwise good piece of work.

One pattern is of a dancing girl, the figure in black on different tonings; this is specially effective. Others have Egyptian designs, floral scenes, or neat patterns delicately traced in black on a coloured ground. There is a large range of sizes and shapes to choose from. Many of these little bedside lamps are exceptionally neat: all have a switch fitted on the stand.

Table standard lamps are shown in the new Egyptian designs, fancy shades giving a good appearance. An unusual type has a stand of wood, decorated to resemble hand painting, and selling at a low price. A good demand is assured for all these lamps.

For the winter season the firm have a complete selection of electric toasters, grillers, heaters and radiators. An assortment of this class of appliances should be carried by retail stores wherever current is available. A reliable article in the "Efesco" brand may be had at a price within the reach of the smallest means. These electrical devices appeal strongly to the housewife, while their cleanliness and economy in use will make satisfied customers return for other lines.

One handy little toaster may be used also for warming a small room if desired; the current used is negligible, and the construction is sturdy.

Another useful line for the hardware store is the electric torch. There is one made for every buyer, from the cheap grade for boys' use to the larger and more powerful kind for serious work. Retailers who have handled torches agree that there is no better selling article. They make a most practical gift for almost anyone, and the number which may be turned over during the year will surprise dealers who have not hitherto handled them. Batteries need renewal from time to time, and altogether the electric torch is well worth a place in the shop. Displayed near the door, they bring many a new customer.

Notes from New Zealand

(Specially contributed.)

Waitemata Power Board intends to reduce the present lighting charges from 8d. gross per unit to 7d. gross, subject to 12½ per cent. cash discount, as from April 1. The board's business is increasing at a very satisfactory rate.

North Canterbury Power Board has decided to go in for trading in electrical appliances, and offices, and a showroom are to be opened in Rangiora. The board has also decided to apply for permission to raise £40,000 of the loan recently authorised. Mr. J. R. Temolin, the board's consulting engineer, who has recently returned from a visit to America, intends to prepare a paper dealing with the information he gained while abroad.

Waitemata Power Board has adopted a special tariff applying to beach cottages and all houses intermittently occupied. Prepayment meters of the shilling-in-the-slot type are installed, the owner of the property paying £2 annually in advance. If electricity to the value of over £3 is consumed, the £2 is to be refunded. The meters will be adjusted to supply current at 7d. per unit net for lighting and 2½d. nett for domestic power.

Waitaki Power Board performed an important switching-on function on February 14, when the large district between Island Cliff and Duntroon was given electricity supply, and a well-attended cooking demonstration was carried out at Duntroon. The board is now pushing ahead with the line between Duntroon and Kurow, and current is expected to be available in Otekaike about the beginning of March. House wiring is now in progress in the two latter districts.

Waitomo Power Board's February report states that the sale of ranges had almost ceased, and as they were a very profitable load, it might be advisable to stimulate sales by a reduction in charges. It was recommended that in future all ranges be quoted installed, at a reduced figure, which, although it might show a loss in the trading department, would be more than counterbalanced by the increased revenue obtained from the sale of power. The engagement of a person to give demonstrations of ranges, irons, kettles, vacuum cleaners, and washing machines is recommended by the manager. The report gives the total number of consumers as follows:—Te Kuiti Borough, 713; Otorohanga township, 161; country districts, 236. These connections include:—Motors, 145; water-heaters, 112; ranges, 43; pumps, 6; washing machines, 3.

Wanganui-Rangitikei Power Board reports that, owing to the abnormally long spell of dry weather, there has been a very heavy demand for installations of electrically driven water pumps, chiefly for farming purposes, and it has been necessary to keep a gang continuously employed on these service lines. Owing to shortage of bulk supply from Mangahao hydro-electric station, the board has been obliged to disconnect water-heaters within its area.

The managing-secretary recommends, with reference to installation of time switches to control water heating, that, when normal conditions are resumed, consumers should have the option of having a supply of current for water-heaters through a meter at *id.* per unit, with minimum of 4/- per month instead of being controlled by time switch on flat rate. The charge of *id.* per unit has been adopted in other districts where, however, the use of heaters is restricted when the range is being used.

A report by Mr. Lloyd Mandeno, engineer to the Hobson Power Board, on a scheme to generate electric power at Lake Omapere for the supply of the North Auckland district was discussed by representatives at Whangarei during February.

The proposed scheme differed from any previously put forward, and involved using the lake as a reservoir for storage of winter rains, giving a supply in summer time when most other stations were short of water. Linked with the Wairua Falls plant, the two stations would form a very reliable and economical arrangement, the cost of generating power probably not exceeding one-fifth of a penny per unit when fully utilised.

The conference resolved:—"That the time is now ripe for the introduction of power in North Auckland peninsula, and that to determine the demand, a detailed survey should be made of each country where it is considered possible to introduce power at a payable rate."

The annual conference of secretaries of the Electric Power Boards and Supply Authorities' Association of New Zealand opened in Wellington on February 22.

In his opening address, the chairman (Mr. G. Campbell, of Southland) stated:—"Electricity is now available to more than 90 per cent. of the population of New Zealand. Some 15,000 route miles of electric distribution lines have been erected. Including the Government plants, there are 48 public electric power stations, and approximately 100 electricity distributing authorities in the Dominion. Taking into account the Government schemes, some £19,000,000 has been invested in New Zealand in generating and distribution systems. The wiring up of consumers' premises would probably run into another £4,600,000. Hundreds, or perhaps thousands, of petrol engines and steam engines have been replaced by motors with a large saving to the user. This is the tenth year since the Electric Power Boards Act came into force."

Steps are being taken by the Public Works Department to increase the output of the Lake Coleridge hydro-electric station. By means of a new outlet weir, which is nearing completion, the normal level of the lake is to be raised by two feet. In addition, work is being carried out at the intake gates at the Harper River with the object of diverting into the lake some of the river waters at flood time. These measures will increase the water storage capacity and provide, to some extent, for the ever-growing increase in the demands for current.

A new generating unit of 7500 kw. capacity is to be installed at the power station, and this, when completed, will give very valuable help in coping with the load. Specifications for the new machine have been issued, and tenders close on May 29, 1928, while delivery in New Zealand is required by March 1, 1929. Erection of the new set will take about three months, so that it should be available to deal with the winter load of 1929. The normal output of the station will then be 34,500 kw.

Radio Exhibition in Sydney

Every exhibition held by radio and electrical interests in Sydney grows bigger and better than its predecessor. The first was a comparatively small affair, the second had so grown that the whole of the floor space of the great hall of the Sydney Town Hall was covered with interesting exhibits, and on this third occasion both the great hall and the lower hall were fully occupied. The display extended over eleven days, from March 21 to 31, and the hundreds of visitors who attended day by day were keenly interested in the latest radio and electrical models and devices.

The radio exhibits were in stronger force than those from the sister industry, although the outstanding feature of the exhibition was the electrical display provided by the public authorities. Models were in operation showing how the electric railway system was worked, and there was also a life-size section of an electrical railway carriage. A section of the first automatic telephone apparatus installed in Sydney in 1913 was not the least interesting feature, and there were besides models and actual working sets of all sorts of gear used by the public departments. The Railways Department, the Public Works Department, the University of Sydney, and the electrical engineering branch of the Institution of Engineers (Sydney Division) combined in making this arresting display. Although it was less spectacular than the exhibit made by the public authorities, the Electric Home was a noteworthy feature of the exhibition. A cottage had been built by A. C. Saxton & Son Ltd., as an advertisement for the firm's ready-built homes, and this was completely equipped with modern electrical household appliances sent by exhibitors. The walls were cut away so that visitors could see into every room. Every electrical device was seen in action, from washing machines to electric bells.

Among the exhibitors prominent in both the electric and radio sections were the Lawrence & Hanson Electrical Co. Ltd., and W. G. Watson & Co. Ltd.

Americans are always ready to advertise their products, and in the radio section American manufactures more than outnumbered the Australian and British products combined. Indeed, some of the important Australian manufacturers were conspicuous by their absence. Statistics recently published showed that hardware stores formed a big percentage of the sellers of radio outfits, although there are still many who have failed to realise the importance of adding a radio department or section to their store.

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VOL. XLIII. No. 5

APRIL 26, 1928

THIS IS THE POINT!

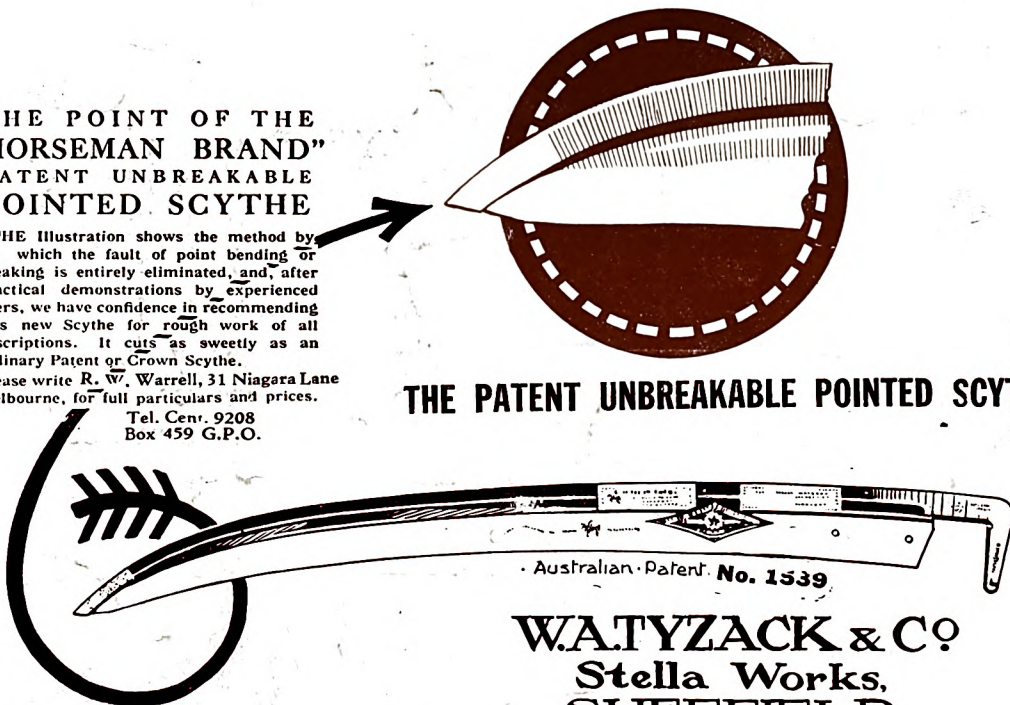
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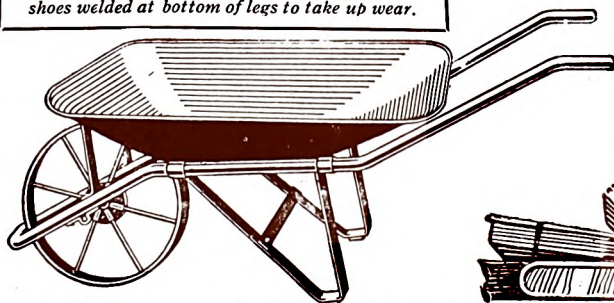
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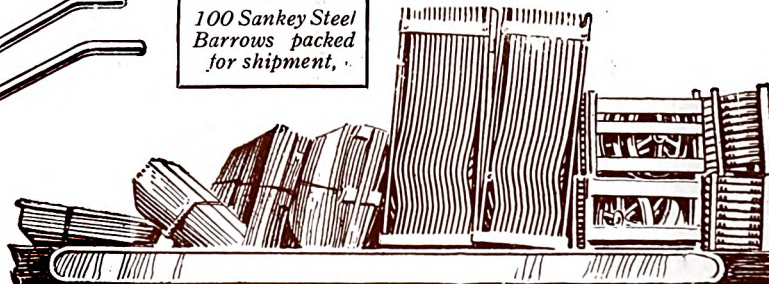
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Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

Are Cash Customers Penalised?

(From "Business Efficiency.")

On the face of it, the question at the head of this article seems absurd. Are cash customers penalised? What an idiotic question, you say. Cash trade is always welcome and it is not likely that people who enter a store to make cash purchases are likely to get the cold shoulder.

Just so; stated that way, the thing seems obvious. Nevertheless, like some other "obvious" truths, this one deserves a little closer attention. It may not be as true as it sounds. Mr. William L. Ware, Trade Commissioner to the Chicago Association of Commerce, roundly declares that the credit customer gets a better deal, and he wants to know the reason why. What he says applies more particularly to conditions in America, but it has its application here, too.

"Why," he asks, "can I go into your store and buy merchandise on a charge account easier, more quickly and much more pleasantly than I can trade with you and pay cash for my purchases? Why is this true of nearly all the retail stores in this country? Your clerks," he adds, "will give the charge customer better attention than the cash customer receives. I don't know whether the clerk dislikes to have to watch for the change to come back from the cashier or not, but there is some reason why the cash customer does not receive the same consideration as the charge customer and it's all wrong."

It is, indeed, all wrong. But it is true: we have all had experience of that sort of thing. It may in some measure be due to the supposition that a customer who has established a credit for himself is a regular and more valuable customer than the casual cash customer. If so, the supposition is wrong. Mr. Ware's argument deserves the most careful attention.

"What you retail dealers want is cash. Your business should be geared up to give the cash buyer the best service. The cash customer should be able to go to your store, receive quicker and more pleasant attention and get out with her purchase in less time than the customer who has the purchase charged. But such is not the case.

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"Another thing I think is all wrong. The cash customer is in no way identified at your store except in cases where the purchase is paid for and delivered. If delivered, your clerk takes the name and address. On a cash-take-with sale you have no record of your customer. I might trade with you for a year before you would show any signs of interest in me if I always paid cash and carried my purchases home. Again, I say, all wrong.

"Some of these days some wise merchant is going to wake up to this thing and develop a system for handling cash customers that will speed up the sale, identify the customer with the store and give better and more agreeable service to the cash customer. The present handling of cash customers is detrimental to the building of a cash business and favourable to the development of charge accounts because it is easier to buy and charge than it is to buy and pay cash.

"This whole system of selling for cash needs speeding up. The bigger the store the greater the need for a re-vamping of the cash sales system. I believe that the outlying stores in most cities get considerable business because customers receive more prompt attention than they can get in the big city store. It is not so far to the cash box and change is more quickly returned.

"Another thing that happens every day in the big store and a most irritating proposition is the fact that clerks often get busy with another customer while waiting for the change to come back from the cashier, and customer number one waits for his change while customer number two has the attention of the clerk. It does not make for pleasant relations between the customer and the store. Is it any wonder that many men have charge accounts when they would rather pay cash? They can trade on their charge account easier and more quickly, and as a result the store carries the bag for a month or six weeks when it might just as well have had the cash the moment the merchandise was delivered over the counter. Think it over."

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The Cash Order System.

(From "The Mercantile Gazette of New Zealand.")

Although there are indications here and there that what is known as the "Cash Order System," has invaded this Dominion in slight degree, we are pleased to state that this apparently innocuous method of financing retail trade has not met with the active support of reputable business houses, and we hope that this will long continue to be the case. We cannot too strongly condemn the principle behind the idea, and must warn our readers that the widespread introduction of the method must only lead to disaster.

Briefly, the method of finance is for cash order companies or firms to issue orders to customers usually in multiples of £5. These are honoured by traders in various lines of business. The recipient of a cash order for £20, for instance, pays on its receipt £1 as interest, and £1 as a first instalment towards repayment. The remainder of the debt is discharged in nineteen weekly instalments of £1 each. The money actually advanced is therefore only £19, and the too-often unsuspecting customer is deluded with the idea that the interest is only five per cent., i.e., £1 on £20. But the rate of interest is a flat rate and not five per cent. per annum, not that anyone with the slightest notion of business would expect money to be lent at five per cent., particularly with such a risky class of trade.

If an advance could be obtained from a bank at the rate of five per cent. per annum on the usual conditions and the principal reduced £1 each week, the interest charged for nineteen weeks would be under four shillings, while actually the payment of £1 interest to the cash order company and repayment of the principal at the rate of £1 a week, works out as equivalent to a yearly rate of 27½ per cent. per annum. So that apart from any other consideration the unfortunate purchaser who has to finance his buying on the cash order system pays close on thirty per cent. per annum on the money advanced.

On the specious plea that the cash order system stimulates business the companies issuing these orders persuade the firms upon whom they are issued, to allow a very substantial discount to the cash order concerns on the purchases, so that the cash order people get it both ways. In Australia the system now extends to the purchase of practically everything—millinery, clothing, mercery, boots and shoes, jewellery, musical instruments and gramophones, electrical goods, even to attendance by dentists. It is hardly necessary to point out that competition results in the cash order companies securing the highest possible discounts with the consequence that quality as a rule must suffer. The consumer, therefore, not only pays a grossly extravagant interest rate on the cash advanced to him, but he has to be content very often with an inferior grade of article.

Although they are based on the same principles, we might remark that there is a distinction between what is commonly known as the hire-purchase system and the cash order system. The purchase of furniture on the hire-purchase plan is an old-established

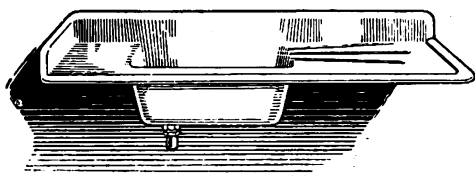
custom, and as carried out by the bulk of traders has much to recommend it. There can be no question but what the purchase of houses and furniture on the instalment plan by countless people of moderate means has been of distinct benefit in enabling such persons to save and accumulate wealth, while at the same time allowing them to have the use of the service or articles purchased. But, while the purchase of slow-wasting assets may be justified in certain instances on the ground that they will be paid long before their period of usefulness has terminated, the purchase of goods by time payments for everyday use or consumption is sheer economic suicide. Looked at from the point of view of the customer the system means waste and extravagance. It must either lower quality or increase the initial cost of the goods, and on top of this he pays a high interest rate. As it is, we have too many people amongst us who are inclined to plunge, heedless of the financial consequences, and the cash order system only leads them deeper into the morass. The mortgaging of one's future earnings in order to obtain the benefit of stable assets is naturally a more costly proceeding than if one could pay cash, but when it comes to the purchase of what are too often the non-essentials in life, the system is fraught with dire peril to those who are foolish enough to resort to this method of finance. Generally speaking, time-purchase buying is justifiable when the purchases are made for production. It is profitable in the case of a motor car or of any motor vehicle used in business, if, thereby, the business can be increased or the expenditure cut down sufficiently to pay for the additional cost. But while the purchase of a light delivery van on the hire-purchase system on the part of a small grocer may be economically sound, the purchase of a pleasure car may be absolute waste and extravagance.

We have shown that the insidious cash order system is detrimental to the interests of the consumer. Let us examine it from the point of view of the trader. Those who defend it claim that it increases trade. Does it in actual practice do so? It may stimulate business for a time; but it is only a species of inflation. It is true that it enables purchasing to be done in anticipation of income to be earned. But the wage-earners of any country cannot, in the long run, spend more than they can earn. The cash order system may mean crowding the spending of two years' income into one year's trading, but after that the day of reckoning must come. The method has only to go far enough when the time would come when all of a man's wages would be required to meet the various instalments that were falling due. And in the end, who gets the benefits of this method of trade? Only the concern that advances the capital, in what we consider is an illegitimate manner. It causes the employment of labour which gives no healthy service, which in no way aids production; it makes the capital employed parasitical in its demands.

By applying the instalment-paying principle to goods for daily use or consumption the purchasers are not mortgaging property or tangible assets with a certain re-sale value; they are mortgaging their wages, their health, their energies and their futures. In the United States the system has assumed vast proportions, and leading business men of America are agreed that directly the present period of prosperity is over the system will get a severe set-back. The consensus of opinion can be summed up in the words of one leading man of affairs. In his judgment, "urging the poor into debt on the instalment plan is the vilest system yet devised to create trouble, discontent and unhappiness. The placing of a mortgage on their health, their jobs, and their earning powers can only create trouble for the individual and for the nation as a whole."

A Visit to Metters' Showrooms in Sydney

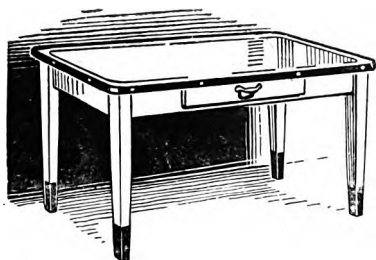
Metters Ltd., who were burnt out twelve months ago, are now back on the old site in Pitt-street, Sydney, where new showrooms have been erected for them. On the ground floor is displayed a wide assortment of electrical appliances, washing machines, and fuel and gas stoves. The low oven "Kooka" gas stoves are fitted with the "Sperry" heat controller, by means of which the oven is automatically kept at any required temperature and the dinner is



Combination Sink and Draining Board

cooked although unattended. The "Robertshaw Automaticook" is a similar device and can be supplied fitted to any of Metters' elevated gas stoves.

A number of model bath rooms run along one side of the showroom. Besides the new "Medlow" bath, which has skirting panel and bath cast in one piece, one room is fitted with a separate shower recess with tiled walls on three sides and a curtain in front. The shower is of the pin-head variety, the water spraying on the head and all parts of the bather. Roman, or built-in, baths are a feature of other rooms. Model kitchens and laundries, featuring the firm's porcelain tubs, as well as the combination sinks and drain boards and other serviceable appliances, are situated at one end of the room. These combination sinks and draining boards are the latest in kitchen appliances. Being cast in one



Kitchen Table No. 1

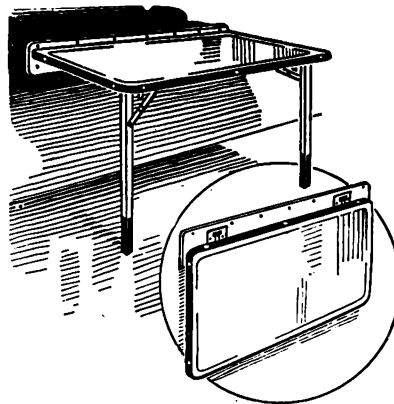
piece and all corners rounded there are no places where grease and dirt can accumulate, a fact which makes them perfectly hygienic. The flutings and the raised border of the draining board prevent all liquids from spilling on the floor and direct them back to the sink. The white porcelain enamel finish

is very easy to keep clean and lends attraction to the fixture. Our illustration is of the No. 60 combination.

The "Easy" vacuum electric washer is worthy of note. Doing its work by air pressure and suction, it is easy on the clothes, there being no friction or rubbing. The revolving vacuum cups, moving up and down sixty times a minute, flush the water directly through the meshes of the garments, carrying away the impurities without endangering the fabric.

The firm's own hot point electric range is nickel-plated and all white porcelain enamelled.

On the first floor are the fuel and gas stoves for commercial cooking. Here are to be seen bakers'



Kitchen Table No. 2

ovens, and great island ranges suitable for cooking meals for a thousand or more persons.

Pressed from one piece of "Armco" steel, Metters' kitchen tables have raised edges to prevent liquids from spilling on to the floor. They dispense with the cumbersome paste board, as the materials for cakes and scones can be mixed direct on the hygienic porcelain top, and when cooking is completed a rub with a damp cloth quite cleanses the surface of the table. The framework is of the best seasoned pine and the table is furnished with a drawer and finished in white enamel paint. In No. 1 pattern the legs are readily detachable for transport, while No. 2 is very suitable for flats and other places where space is a consideration, because when not in use it can be folded flat against the wall.

With head works at Alexandria, Sydney, the company have works also at Adelaide, Perth and Wellington (N.Z.), and a branch in Brisbane. The Victorian agents are Frederick R. Baker Pty. Ltd., of Melbourne.

Effective Composition of Business Letters

(From a Canadian Source)

Business letters differ from other kinds of composition in that there is no standard of form or of expression by which they may be judged. A letter is written with the definite purpose of accomplishing a certain object. If it succeeds, it is a good letter. If it fails, it is not. There is no other test of a good letter than its ability to induce its reader to act as the writer wants him to act. So, while the mechanical make-up of a letter is important, insofar as it creates a favourable or unfavourable impression upon the reader, the vital element is the tone of the letter—the manner in which the message is expressed.

Naturalness.

The person who desires really to develop his letter-writing ability must give studious thought to certain basic requirements. In the first place, he must in his letters be natural. Each of us who has attained a position in life which is indicated by our being required to write business letters, has a distinctive personality all his own. This individual personality sticks out like a sore finger in our personal contact with others. But with the most of us, although we can talk clearly, interestingly and convincingly to a person face to face, when we sit down to write a letter we forget our natural simplicity of expression. Unconsciously, we adopt a cold, formal tone. We lapse into trite, mechanical, time-worn expressions such as:

"We acknowledge receipt of your esteemed favour of the 28th ultimo, which is to hand, and in reply to same would beg to advise." We fill our letters with "herewith," "please find," "we beg to remain," and such characterless phrases. These make our letters stilted, obscure their meaning, complicate the explanation we are endeavouring to make, and weaken the appeal. This is one of the chief reasons why the average man's letters are less effective than his personal interview would be.

It is desirable that a business letter should be grammatical, that it should be correctly punctuated, and that it should conform to the rules of good English composition. But business correspondence is more concerned with human nature, with the things in which the readers are interested and to which they respond. Men that know human nature write effective letters in spite of literary shortcomings. The polished, clever scholar can never write a good letter unless he also knows human nature.

Do not bore your reader with hackneyed, slipshod phrases. Tell him something he wants to know. Write from his standpoint and not from yours. Imagine the man to whom you are writing is sitting opposite to you at your desk, if you would rid yourself of the self-consciousness that ordinarily robs your written expressions of their vitality. Write much the same as you would talk. Do not try to imitate the style or expressions of anyone else. On the contrary, be natural, be yourself.

Sincerity.

When a correspondent has attained a natural style of expressing himself in a business letter, he has gone a long way towards acquiring the second essential, which is that he be sincere. In fact, to be natural and to be sincere are so closely associated as to be almost synonymous terms. A business letter is never at its best unless it manifests—clearly and unmistakably—an intensely human interest in the person to whom it is addressed and an earnest, honest desire to serve him to the utmost. This necessitates the proper attitude of mind on the part of the writer. If he cannot put himself into the right frame of mind, he would better leave the letter unwritten. Falsehood is bound to reveal itself, and any appearance of insincerity is particularly dangerous in a letter, because the reader's distance from you deprives you of the opportunity to correct the impression which a false note in your letter may have created in his mind.

The day is gone wherein we can get the other fellow converted to our way of thinking by writing him letters which aim to tickle his vanity by pretty, but insincere, flattery. Anyone who resorts to such devices in this age is playing a losing game. A masterful letter with the power to produce results that endure requires that the thoughts of the writer be strongly fortified by sincerity and truthfulness. It is not necessary or desirable that the honest word of praise, or the kind expression of sympathy or encouragement, be banished from the business letter. But it is necessary that whatever is written in a letter should be an earnest, manly expression of goodwill towards the reader, and an honest desire to serve his interests.

Courtesy.

A third requisite of a good business letter is that it shall be courteous. There is, perhaps, no quality in a business letter which is so effective as courtesy in building goodwill; nothing can destroy it so quickly as discourtesy. But mere politeness must not be mistaken for courtesy, of which it is only one element. Politeness is a matter of form—an expression of good manners. Carried to extremes, so common with some correspondents, it becomes servility, which tends to awaken in the mind of the reader both distrust and contempt for the writer and the institution he represents.

Courtesy is an unmistakable expression of goodwill towards the reader, born of a genuine desire to give him a square deal. A courteous letter cannot be written when one is in a bad temper. This does not mean that a correspondent must not be indignant, but he must express his indignation in a manner that shows he has a sense of fairness.

Little pleasantries common to personal conversation may be used as well as some inoffensive slangy expressions without depriving a letter of courtesy. But slang of a low order, sarcasm, attempts to be clever, and sharp language should be avoided. Approach the task of writing to a person not in the

spirit of "How can I do this fellow?" but rather in the attitude of "What can I do for him?"; and then be frank.

Conciseness.

Another important requirement of a good letter is that it shall be concise. It is pointedly said that it isn't what goes into it that makes an evening gown a success, but what is cut out. Most business letters contain much matter that would be better cut out. A concise letter is one in which everything that should be said is said in the briefest possible way. Words may either conceal a thought or reveal it—bury it or give it birth. It is not necessary to write volumes to speak volumes. It only takes three words to tell a man to go to eternal damnation, and what a story is suggested by the brief phrase, "As long as she shall live." So if we would write concise letters we must eliminate needless words, worthless repetitions and superfluous details.

Conciseness, however, means more than brevity. It includes completeness. It is less important that a letter be short than that it should say everything that is necessary—and say it courteously. If brevity is overdone, the letter is likely to be curt, and a curt letter breeds bad feelings and consequent trouble.

Concise letters are the result of intelligent planning. Letters that ramble—letters in which each paragraph has an afterthought—letters in which the message is beclouded in a haze of useless language—are letters that are written without a plan. So to attain conciseness in a letter, it is necessary to think what we are going to say and how we are going to say it before beginning to dictate.

Clearness.

A letter to be a good letter must also be clear. If the meaning of a letter is not immediately clear to the reader—if it is necessary for him to stop to decipher any passage because it is vague or obscure—that letter has violated one of the primary principles. Misunderstandings are likely to result from such a letter. And misunderstandings lead to illwill and loss of business.

Just as conciseness is secured by careful planning in advance of writing, clearness is secured in like manner. If we know what our letter is to contain before we start, if we understand our reader's situation, if we are specific and arrange our words, phrases and clauses in proper grammatical order, we shall attain clearness.

Practically every business letter is, or should be, a sales letter. It offers an opportunity to sell goodwill, if it does not happen to be a direct effort to sell goods or service. Even a letter declining to grant a concession or a favour should be a serious attempt to sell to the reader the justice of the writer's stand. Because this sales element in business correspondence is not generally appreciated, letters written by members of a sales force are usually better letters than those written by the average office man.

A successful letter must aim to accomplish what the salesman accomplishes in a personal solicitation. It must carry the mind of the reader through the four recognised phases that enter into every sale. Through the written message the writer must talk to his reader much the same as a good salesman would talk to him face to face. That is to say, the letter must, first, attract attention; second, arouse interest; third, create desire; fourth, induce action. Bear this in mind when planning a letter. It will assist you to arrange your statements and arguments in proper sequence. This, in turn, will make your letter more forceful and more convincing.

Machinery

Traversing Reel.

The Standard Machinery Co., of Auburn, R.I., U.S.A., have designed a traversing reel for spooling wire as taken from a small rolling mill or wire-drawing machine. The spool on which the material is being wound is traversed backwards and forwards by means of a chain of gears, an adjustable eccentric disc, and a nut operated by ratchets and pawls. This mechanism is operated by the spool shaft, and therefore coils the wire evenly regardless of the increasing diameter of the spool.

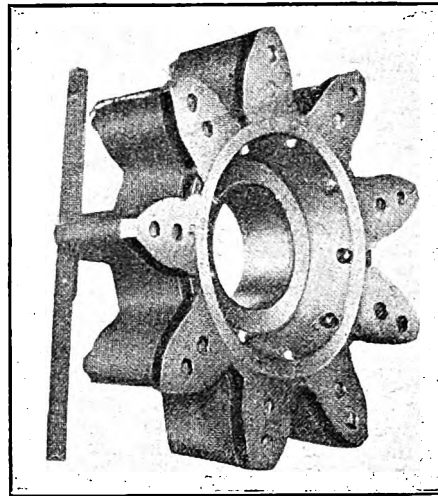
The amount of traverse per turn of the spool can be varied by adjusting the eccentric disc. The traversed motion reversed can also be adjusted at the end of the spool so as to suit any diameter of wire. This traverse motion reverses instantly, eliminates any building up of the material at the end of the spool, and insures a compact package which, it is claimed, will unwind readily.

These reels are built in two sizes, and cover a range from very fine wire or flat up to diameters or widths as large as $\frac{1}{2}$ in.

Large Size Gear Cutters.

In order to obviate the difficulty of producing a completely hardened steel cutter of large size, the Farrel Foundry & Machine Co., of Buffalo, N.Y., U.S.A., have produced a line of built-up cutters.

The cutter shown is a pinion-type gear cutter, and is typical of the construction used. The bodies are made of cast or forged steel, and high-speed steel blades are securely held in position by wedges



and bolts. The cutting blades are roughed out to approximate tooth shape, are hardened, and finish-ground in position on the body, so that they are as accurate as a cutter made from one piece of tool steel.

Among advantages claimed for this cutter are that high-speed steel blades are small, and therefore easy to harden evenly. If one or more teeth are injured by hard spots in the material being cut, it is a simple matter to replace them with new blades. The tool is economical because the body and holding device are permanent, and the cutting blades can be machined in large quantities. Accuracy is assured because of the manner of finishing the blades in position. The operator can force the tool to the limit without fear of spoiling an expensive tool.

All cutters with teeth $1\frac{1}{2}$ d.p. are of this type.

Developments in Domestic Refrigeration

By W. H. Janson Holloway

Very large numbers of domestic refrigerators operated by electric power are in use in America and even in England where the average summer temperature is much below that of the coldest parts of Australia. A surprisingly large number has been installed, so that a rapid extension of their use here seems certain.

The developments in this direction are evidenced by the fact that one of the largest American makers recently put up a 20,000,000 dollar extension to their already large works, and new makes are springing up all the time.

In the circumstances, architects and builders especially will desire to keep in close touch with developments, and it is proposed in this article to give a description of two typical designs and an explanation of the principles on which they operate.

It is not desired to make this article too technical so that as far as possible simple and well-known facts will be used to illustrate the theory of power operated refrigerators, the term "power operated" being intended to imply a refrigerator which does not operate merely by the melting of ice, but which requires the supply of power from an external source in the form of electricity, gas, oil, etc.

An invalid tossing restlessly in bed knows the refreshing and cooling effect of having the brow bathed with Eau de Cologne. You can easily test this by pouring a little on the back of your hand.

After a swim, the wind which before you got wet felt warm, may then feel quite cool, or if very strong, even cold, though by testing its temperature by a thermometer you can see that it is the same temperature as before you went into the water.

In each case the sensation of coolness is caused by the evaporation of the liquid, and the more rapid the evaporation the greater the degree of cold. The stronger the wind, the more rapidly it takes away the vapour evaporated by the heat of the body (i.e., the vapour of the Eau de Cologne or seawater) and therefore the colder it feels. The Eau de Cologne feels colder than would water in similar circumstances, because it evaporates at a lower temperature.

Now, it is a law of nature that two bodies at different temperatures cannot remain in close contact without the hotter body giving up some of its heat to the cooler one. As soon as the transfer of heat causes the two bodies to assume the same temperature the heat transfer ceases.

Suppose you put a very hot iron in a small bowl of water which is enclosed in a box. The iron will heat the water which will then evaporate and give up heat to the air in the box until all, i.e., the air, water and iron, are at the same temperature. Now, this does not look like evaporation cooling the water, because it is hotter than it was to start with, but if you think a little you will see that while putting the hot iron in the water would raise its temperature considerably, it could not remain at this temperature, hotter than the air in contact with it, so it vapourises to some extent, giving up part of its heat to the air and thus cooling itself.

Now notice this particularly: It necessarily also cools the hot iron, i.e., the source of the heat which caused the evaporation to take place, and that is the very important point at the back of the process of refrigeration, namely the object or substance which provides the heat necessary to produce the evaporation is itself cooled in the process because it necessarily gives up heat.

One other important fact is that the lower the pressure on the surface of the liquid being evaporated, the more easily the evaporation takes place. This will perhaps be more obvious if we consider a tall thin cylinder with a little water at the bottom. Most of us recollect learning that air has weight, this weight being about 15 lb. per sq. in. If our cylinder has an area of one square inch the air is pressing on the surface of the liquid with a weight of 15 lb.

When an amount of heat we will call "H" is applied to the water and it gives off vapour, that vapour has to rise out of the water against this air pressure of 15 lb. Obviously, if we could reduce the weight of the air, the vapour would get out of the water much more easily; i.e., a given quantity of vapour would be produced by a smaller amount of heat "H." Conversely, if we increase the air pressure to more than 15 lb. much more heat is required to cause evaporation and, in fact, any vapour existing as a result of the application of the heat "H" will be forced back again into the water to some extent—the well-known phenomenon of condensation.

One of the easiest ways of reducing the air pressure is by pumping it away so as to cause a partial vacuum. Of course the vapour then formed will fill the partial vacuum and build up a pressure again unless the pumping is continued and the vapour removed as fast as it is formed.

At normal atmospheric pressures water evaporates rapidly at 212° F., i.e., it boils away by the formation of vapour bubbles in the body of the liquid, and this is the highest temperature at which water can exist in its liquid state at normal atmospheric pressure. The application of heat does not further increase its temperature, but only increases the rate of evaporation or boiling. Note that the term "boil" means rapid evaporation by the formation of bubbles of vapour in the body of the liquid and at the highest temperature at which the substance can be maintained as a liquid.

For refrigeration we must have rapid evaporation, i.e., boiling, and therefore water is not a suitable liquid to use because even if we reduce the atmospheric pressure on it to say one lb. per sq. in., the boiling point is only lowered to about 40 deg. Fahr., and even for this comparatively high temperature the size of exhausting pump required to maintain this degree of vacuum would be out of the question.

We must therefore choose a substance which boils at a low temperature at atmospheric pressure, as we can then get down to a refrigerating temperature

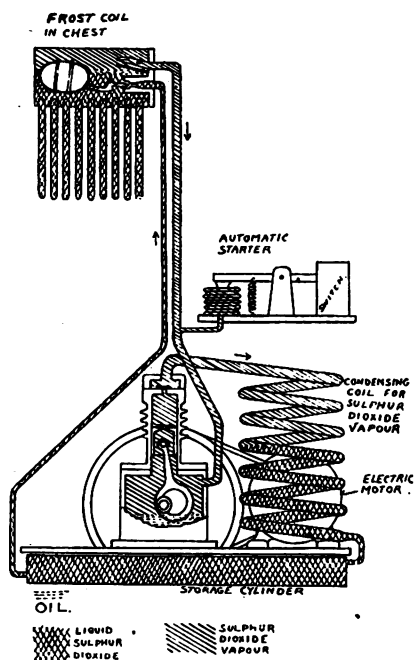
with a reasonable vacuum and size of pump. Alcohol evaporates more easily than water and actually boils at 172 deg. Fahr. There are, however, many difficulties connected with the use of alcohol, and in any case its boiling point is not really low enough.

Most small refrigerators now employ sulphur dioxide, a liquid which boils at 14 deg. Fahr., i.e., 18 deg. Fahr. below the freezing point of water. It may sound strange to talk of boiling at such a low temperature, but remember the explanation of the term boiling given above, and the idea is easier to follow.

Sulphur dioxide has a very pungent odour like that of burning sulphur, and a very slight leak in the apparatus is therefore easily noticeable before it becomes serious. It is non-explosive, and non-inflammable, and has no corrosive action on the metals used for the pump and frost coils, etc.

Its working pressure is not very greatly different from atmospheric pressure so that the likelihood of leakage at joints and stuffing boxes is small and the factor of safety is high, while sulphur dioxide also mixes well with lubricating oil, so that lubrication is easy.

The following diagram shows a typical sulphur dioxide refrigerator which consists of the following essential parts:—Frost coil, where the sulphur dioxide liquid is boiled away to vapour by the heat given to it by the contents of the refrigerator; motor driven suction pump and compressor combined; condensing coils, where the sulphur dioxide vapour is condensed again to a liquid, and a device for automatically starting and stopping the motor, according to the temperature of the frost coil.



Typical Sulphur Dioxide Refrigerator.

The frost coil, which may consist of a cylinder with a number of pieces of tubing fixed in it so as to increase the surface area as much as possible, contains a float valve very similar in its action to the usual carburettor float valve of a motor car, i.e., it maintains an approximately constant level of liquid sulphur dioxide in the cylinder available for evaporation.

As the vapour is formed it is sucked away by the upward stroke of the pump or compressor, as it is more often called, through the larger of the two pipes, into the crank chamber. The downward stroke

allows the vapour to pass to the top side of the piston valve and the following upward stroke forces this vapour through the cylinder head valve into the condensing coils. Condensation is caused here partly by means of a fan on the motor shaft blowing air on to the coils and also by the pressure caused by the pump continually forcing more vapour into the coils. You will remember that increase of pressure forces vapour back again into the liquid from which it came and the cooling assists this process.

A small storage cylinder is provided to hold the major portion of the liquid sulphur dioxide, which is fed through the small pipe to the float valve in the frost coil cylinder on account of the pressure behind it caused by the compressor. There is thus a circulation of sulphur dioxide all the time the pump is running, in the form of liquid from the lower part of the condensing coils to the lower part of the frost coil and in the form of vapour from the top part of the frost coil, through the compressor to the top part of the condensing coils.

Oil which is splashed into foam by the revolving parts in the compressor crank chamber is carried round the piping by the sulphur dioxide vapour and thus automatically lubricates the piston and compressor valves, also the frost coil float valve. This easy emulsifying of the oil with the sulphur dioxide is a big advantage possessed by this refrigerant, as automatic lubrication makes for simplicity in manufacture and running.

Continuous operation of the compressor would be both wasteful and unnecessary, as the object of the equipment is not to get the lowest temperature possible, but to maintain reasonably constant a temperature of about 40 deg. Fahr. to 45 deg. Fahr. in the refrigerator. Arrangements are therefore desirable for automatically starting the compressor when the temperature in the refrigerator rises too high and stopping it again when it has fallen low enough. There are many methods of doing this, but in practice it is found that there are advantages in controlling the temperature of the frost coil instead of that of the air in the refrigerator, and one way of doing this is shown in the diagram.

The switch controlling the electric motor is operated by the lever shown, this being actuated by a spring, and also by the concertina-shaped metal cylinder which is connected to the vapour pipe from the frost coil. When this coil warms up, the consequent increase of pressure in it is communicated to the concertina and causes it to expand and move the lever against the spring pressure, thus switching on the motor. The vapour pressure drops as the temperature falls and the adjustments of the automatic starter are so made that the switch is opened by the contraction of the concertina while the minimum temperature is attained.

The equipment consequently requires no attention other than perhaps oiling of the motor bearings occasionally. It can be plugged into a power point or lamp socket and left to itself. The actual running time under ordinary household conditions is about 8 hours out of the 24, e.g., running 20 minutes, standing 40 minutes, and so on. Much opening of the doors or insertion of hot foods will, of course necessitate more frequent running than will occur during the night or at periods when the refrigerator is not being used; but the figures given are fair averages.

The cooling coil is largely used for making ice, as well as for frosting the food compartments, and for this purpose it must, of course, be kept below

freezing point when at its maximum temperature. To maintain the cool temperature approximately constant would be inconvenient as it would necessitate a great many stops and starts of the compressor and short runs of two or three minutes at a time, so the coil is usually caused to cool down to 18 deg. Fahr. to 20 deg. Fahr., and then allowed to rise to 28 deg. Fahr. to 30 deg. Fahr. before the compressor starts again. These low temperatures are ideal for the manufacture of ice, while they are not such as to freeze the food, provided the size of coil is chosen correctly, having regard to the size of the food compartments, etc., and a complete equipment as sent out by the makers will be satisfactory under all normal conditions.

Where a number of refrigerators are installed in a single building such as a block of flats, the initial cost and also the running cost and upkeep can be reduced by installing an extra large compressor capable of dealing with the evaporation from half-a-dozen or a dozen frost coils, just as one large locomotive is used for a train of trucks instead of one small loco. for each truck. The architect and builder can then co-operate in designing the building so that the refrigerators—each consisting of only the food storage compartments without the lower portion shown in the first illustration—can be built into the house in the same way as are cupboards and wardrobes, etc., while the compressor is installed in the basement or caretaker's quarters.

Recently a great development has occurred in the design of what is known as the "absorption" type of refrigerator, a type which operates without the necessity for any compressor, motor, or other moving machinery and valves.

The principle on which it works is, in essence, the same as that of the design just described, namely, the cooling effect caused by evaporation of a liquid, but the pump is dispensed with and the vapour of the refrigerant is removed by allowing it to come in contact with a substance which absorbs it just as blotting paper will absorb ink from an inkwell.

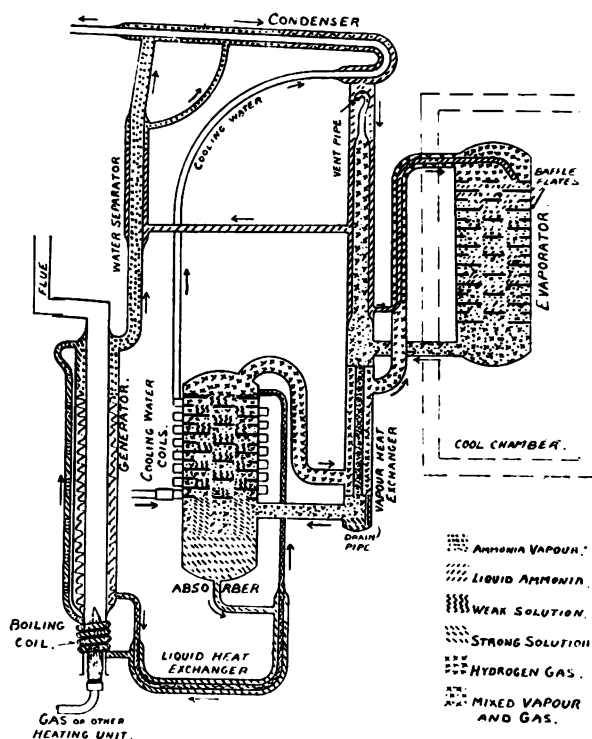
Sulphur dioxide is not suitable for this process and ammonia is the refrigerant employed, its vapour being absorbed by water which has a remarkable affinity for ammonia gas. Even at a temperature of 60 deg. Fahr. it will absorb about 800 times its own volume, while at a temperature just above its freezing point it will absorb over 1000 times its own volume. These quantities refer to ordinary atmospheric pressure and would, of course, be increased for higher pressures.

Liquid ammonia boils at 28 deg. Fahr., i.e., 60 deg. Fahr. below the freezing point of water, so that it is easy to produce low temperatures by its use, but the high pressure which it consequently exerts at ordinary temperatures is a disadvantage in a system employing jointed piping, working parts, valves, etc., not only on account of leakage, but also from considerations of safety. In a system such as that to be described, however, there are no long pipes, working parts or valves, and as the whole arrangement can be made of solidly built metal vessels strongly welded together, these disadvantages are practically non-existent.

Of course, it would not be economical or convenient to allow the absorbed ammonia to run away to waste, so arrangements have to be made to recover it and, as a matter of fact, the ammonia liquid and the water are both hermetically sealed inside the apparatus and are used over and over again, just as is the case with the sulphur dioxide in the type of refrigerator already described.

A diagram of a typical absorption refrigerator is given, and it will be seen that it consists of the

following essential parts:—Generator, where, by the application of heat from some external source; the ammonia vapour is generated or boiled off from the water in which it was dissolved; condenser, in which the vapour is condensed into liquid ammonia; evaporator, in which the liquid ammonia is vaporised by the heat obtained from the contents of the refrigerator; and, lastly, the absorption chamber, where the ammonia vapour boiled off in the evaporator is absorbed by water.



Typical Absorption Refrigerator.

The evaporator is mounted inside the refrigerator, while the remaining parts, which are outside the refrigerator or in a separate compartment, are connected to the evaporator by short thick pipes welded on.

The generator can be heated by gas, oil, electricity, or other easily controllable means, so that the fields in which this type of plant may be utilised are wide.

Hydrogen gas is mixed with the ammonia for reasons which may perhaps be a little difficult to follow in detail without a knowledge of physics, but which are bound up with Dalton's law that the total pressure of a mixture of two gases or vapours is equal to the sum of the pressures which each would exert if it alone occupied the space taken up by the mixture. This is the essential fact which enables the device to operate without any valves, as by suitably proportioning the amount of hydrogen it is possible to have the ammonia in the evaporator at a pressure suitable for production of the necessary amount of evaporation (e.g., 30 lb. per sq. in.), while in the high pressure parts it may be at 150 lb. per sq. in. The amount of hydrogen present is arranged so that in the evaporator it exerts a pressure of, say, 150 lb. per sq. in., and in the other parts 30 lb. per sq. in. The sum of the pressures is therefore constant in all parts of the apparatus at 180 lb. per sq. in.

Hydrogen has the advantage over other suitable gases because its extreme lightness generally assists in the circulation of the refrigerant. Incidentally, hydrogen is practically insoluble in water, which is thus left free to absorb the maximum amount of ammonia.

When heat is applied by means of the heating unit, the generator full of water containing in solution a little ammonia vapour is warmed up, but the boiling coil containing a strong solution is actually boiled so as to cause bubbles of ammonia vapour to form. These rise up the small pipe, carrying with them the ammonia solution now weakened by the ammonia boiled out of it, what actually happens being the formation of alternate layers of vapour and solution which latter is lifted up the pipe by the vapour which, of course, naturally rises. On emerging at the top of the generator the solution falls into it, while the ammonia vapour rises through the water separator where any water vapour contained in it is condensed and also falls back into the generator, the condensation being assisted by baffle plates and a cooling jacket containing liquid ammonia.

The pure ammonia vapour now passes through the water-cooled condenser where it is condensed to a liquid form and runs down into the evaporator by way of the long, vertical, double-walled tube shown, supplying on the way the small amount of liquid ammonia necessary to make up for evaporation in the water separator jacket.

The top part of the evaporator is filled with hydrogen gas and the ammonia liquid falls downwards, passing over a number of baffle plates so as to bring it into contact with as large a surface of metal as possible, and in its passage through the vessel it is evaporated by the heat given to it from the contents of the refrigerator; and its vapour, which contains the heat thus abstracted from the refrigerator contents, passes out through the pipe at the bottom and into the absorber, together with a certain amount of the hydrogen which has become mixed with it.

We will now return to the generator for a moment. The hot weak solution of ammonia, which drops from the end of the boiling coil pipe, together with water from the water separator, collects in the main cylinder of the generator, and by raising the level of the liquid in it causes it to flow out of the bottom pipe up to the top of the absorber. Here it is broken up by baffle plates similar to those in the evaporator, and in its passage downwards it meets the incoming and rising mixture of ammonia vapour and hydrogen gas from the evaporator. The hydrogen passes upwards and back to the evaporator while the ammonia vapour is absorbed by the weak ammonia solution, its absorption being assisted by cooling the absorber by water, which afterwards flows through the condenser. The now strong solution of ammonia flows out of the bottom of the absorber and into the boiling coil, and the cycle of operations commences again, as the heat applied here causes a pumping action through the medium of the bubbles of hot ammonia vapour.

It will be noticed that in the liquid heat exchanger, the hot ammonia solution from the bottom of the generator gives up some of its heat to the strong ammonia solution passing from the bottom of the absorber to the boiling coil, thus entering the absorber sooner than would otherwise be the case, and leaving less cooling to be done by the cooling water.

In the same way the vapour heat exchanger allows the cold mixture of ammonia vapour and hydrogen gas from the evaporator to pre-cool the pure hydrogen from the top of the absorber before it re-

enters the evaporator, thus preventing unnecessary warming of the latter through the influx of warm gas.

The vent pipe shown below the condenser is to allow the return to the evaporator of any hydrogen gas which may collect in the condenser. Should any collect there while the apparatus is not working, it is forced out by the incoming vapour and liquid on starting up again, and passes down the vent pipe, the end of which is bent over to prevent liquid ammonia dropping into it.

It will be seen that the operation of this type of refrigerator is very simple and the absence of any moving parts is a great consideration. In the type actually described above, automatic stopping and starting of the heating unit has been discarded in favour of a simple heat control switch or lever which gives an "Off" position and three degrees of cooling, it being considered that the absence of any delicate thermostatically operated control gear, together with the ability to regulate the cooling effect, more than compensates for the advantages of automatic control of the temperature.

When domestic refrigerators are operated by electricity, it does not necessarily mean that they cannot be used in the country where there is no public supply available, because the ordinary farm or home electric lighting set will operate most of the smaller sizes. It is, however, advisable to get into touch with the maker of the lighting plant or with his agent here, before installing a refrigerator, to make sure that the batteries supplied with the plant are large enough for satisfactory working with this additional load, even though the refrigerator may take less current than the ordinary electric iron.

Water cooling may seem another stumbling block, but usually this can be arranged in conjunction with some form of elevated tank, and as the water is not contaminated in its passage round the cooling pipes and jackets, it can be used over again or for some other purpose.

New Acid Resisting Material.

A new material, stated to be by its patent composition unique as an acid resisting medium, has been placed on the market in commercial form by a Birmingham firm. In this material, a form of concrete, the binding material of ordinary concrete (Portland Cement) is replaced by a special binder which, when combined with the other ingredients, gives an elastic solid with no plastic or semi-fluid properties, and having a crushing strength of over 6000 lbs. per sq. in. National Physical Laboratory tests also show that on abrasion test its wear is two-thirds that of a two to one mixture of Leighton Buzzard sand and cement ten weeks' old. The resistance of this material to acid attack is demonstrated by the fact that it even withstands the action of concentrated hydrochloric acid, hot or cold.

It is said to be suitable for the making of acid-proof floors, which can be laid in slabs and ultimately welded together to form a sound floor. Such floors have been successfully used in accumulator works, breweries, sewerage chambers, and process works, where acid is continually being spilt. Another use is for the lining of vats used in the pickling or de-scaling trades, and a specially designed lining is being put forward for this use. It is understood that the linings are quite reasonable in price and compare very favourably with lead linings, which at present are often used.

Australian Manufacturing Developments

Irrigation Appliances.

Pope's Sprinkler & Irrigation Co. are located at Croydon Park, South Australia, where for some time they have manufactured Pope's irrigation appliances, which have attained much popularity amongst fruitgrowers and farmers generally.

Having turned their attention to the production of lawn sprinklers, sprayers, and similar lines, hardware merchants and dealers will be interested in a number of special fittings now turned out. Many are not aware that the well-known clincher type hose menders with brass linings are obtainable of Australian make. Samples of this handy little fitting as made at the Pope factory show a quality equal to any we have seen.

The familiar galvanised hose clamp is another of those everyday sellers which make a useful item of hardware stock, and a greatly improved controlling nozzle is also made. By careful methods of production it has been possible to supply these articles at a competitive price.

Ryall & Brock, of 360 Post Office-place, Melbourne, are selling agents, and carry a set of samples.

The Growth of the K.F.B.

It is doubtful whether any firm in Australia has shown such remarkable progress as the K.F.B. Foundry Ltd., of Sydney.

It was in 1916 that the company was formed, with a small capital and a few employees. To-day there is a big pay roll, and the authorised capital of General Industries Ltd., the parent company of the two amalgamated undertakings, K.F.B., and Metters, is £2,000,000.

The little building that first sufficed has grown to a factory at Waterloo, Sydney, with a total floor area of 139,000 sq. ft. The site occupied covers 26 acres, leaving ample room for future extension.

The manufacture of fuel stoves alone was taken up at first, but it was not long before gas stoves were added, to be followed in due course by ice-chests, bath tubs, enamelled sanitary ware, electric refrigerators and bath-heaters, to mention but a few of the activities now engaging attention.

The enamelling plant was installed early in the company's history, and a short time afterwards all the necessary equipment for nickelling the bath-heaters and other domestic appliances was put into operation.

With a view to make the factory self-contained and independent of outside assistance, the important step was taken of erecting a smelting furnace, so that everything, from beginning to end, is done on the premises.

Great stacks of pig iron are ready for use near the furnace, situated at the opening of the moulding shop. From the great furnace the molten metal is conveyed to where men armed with ladles direct it into the moulds.

In the making of such small things as the parts of fuel stoves, the work is done by hand, but the big bath tubs call for the use of a sand slinger, a great machine that travels from one end of the shop to the other, lifting and ramming the black sand into the moulding box, the metal being poured in by four men carrying a huge iron bucket on long bars. With the help of the machine, more than eighty bath tubs are made in a day.

From the moulding shop they are conveyed to the enamelling room, where they are freed from all rough metal and grease, and the "frit" or ground coating, is put on. A dip into the furnace is fol-

lowed by the application immediately of powdered enamel. The cold process is adopted for the coating of the smaller articles.

In the case of the K.F.B. sealed heat gas oven, the escape of heat, mainly by the use of a false back, and the placing of the outlet near the bottom instead of at the top of the stove. Only sufficient gas is now required to maintain the heat lost by radiation.

Another noteworthy achievement is the restaurant boiler, a device which delivers only boiling water without being under steam pressure, and automatically closes when the gas is shut off. Still another is the saucer which catches the drips from the heater, and so prevents the discolouration of the bath tub. A patent automatic water-heater is also worthy of mention. The flow of water is regulated by turning a turning sleeve on the water inlet.

Worthy of mention also is the improved gas burner, whereby the consumption of gas on the top of the stoves has been considerably reduced.

The showrooms of the company are at 333 Pitt-street, Sydney, and as the adjoining premises have been secured the floor space will be doubled ere long.

Of the founders, two gentleman, Mr. N. H. B. Keysor and Mr. E. Forrest, are still with the company, Mr. Keysor being the managing director. The works manager is Mr. J. P. Wiatt.

From Small Beginnings.

Forty years ago Mr. F. Malley commenced business as a sheet metal worker in Kent-street, Sydney. To-day he is at the head of Malleys Ltd., a company with a paid-up capital of £200,000.

Not long after he started, Mr. Malley moved to larger premises at the corner of Liverpool and Kent streets, where he had the head office and factory. The growth of business was such that the firm was cramped for room, and a very much larger factory was built in Mount-street, but this again proved too small, and in 1924 an area of three acres was purchased at Alexandria, where the present extensive buildings were erected, the Mount-street building being retained as a warehouse and administrative offices.

In 1926 showrooms were opened at 115 Pitt-street, and branches were later established at Crow's Nest and Hurstville.

Mr. Malley is at present in the United States, which he has visited six times in the last few years. In his absence the business is in the hands of his two sons, Mr. C. L., and Mr. C. Malley, who, with their father, compose the board of directors.

It is for skylights and bath-heaters that Malleys Ltd. are most popularly known, but in addition they manufacture such diversified articles as dairy and kitchen utensils, garbage tins, water boilers, and chip bath-heaters, enamelled bath tubs, insulated coils for use in telegraphic work, and the interiors of ice-chests. These items do not cover the whole of the company's activities by any means.

The works manager is Mr. D. Banks, and Mr. W. Crewes is the works foreman. The enamelling department is in a separate building, Mr. W. Deacon being the manager. He has had many years' experience of the technical side of the business, and was engaged with some of the oldest houses in England and Scotland before coming to Australia seven years ago.

While there is much of interest to be seen in all parts of the factory, the visitor is disposed to linger in the enamelling department, where the raw

article received from the iron workers goes through no less than ten processes before it finally emerges with its shiny coat of whatever colour is decided upon. It is first put through a furnace to remove all traces of grease, then into a muriatic acid bath, then into cold water, and so into a solution of boiling soda ash. Now comes the first enamelling, called the "grip," or ground coating. After a thorough drying comes another turn in the furnace, then two other coats, with a heating in the furnace each time, the temperature being lowered between times, the greatest heat being 1650 deg. Fahr.

The utmost care and attention are required at each operation, the materials must be of the right standard and quality, and the furnace of the right degree of heat, else, if one went wrong, the whole job would be spoilt. The enamel is sprayed on with power machines, the dust being sucked up by powerful funnels, thus saving the operators from risk of contamination.

All enamels, it may be said in passing, are mixed on the spot, the ingredients being carefully tested beforehand to ensure their purity, and care being exercised to attain the right degree of consistency. A feature of considerable importance is that sheet steel is used instead of cast iron in the construction of the various articles, with beneficial results. Cast iron being much heavier than sheet steel, a considerable saving is shown in freight charges, and there is this further advantage that the cost of production is a great deal lower. In the use of cast iron it is possible to put only one article through the furnace at the one time if enamelling is to be successfully done, while with sheet steel the number is limited only by the capacity of the furnace.

Ice-chest lining is the biggest enamelling job, and whereas these were formally made in four separate parts, they are now cast in the one piece, thus doing away with cracks and ensuring greater cleanliness. In the better-class flats electric ice-chests are now being built into the walls, and much longer seamless linings are called for, but the demand has been met, all obstacles to producing a one-piece material having been overcome.

Another large building houses a variety of undertakings. The biggest job of all is the manufacture of air ducts and pumps for ventilating systems, and a contract has been completed for the installation of the system in the Capitol Theatre. In addition to ventilation, the process is applied to cleaning factories of dust and sawdust, and the firm have made an installation in their own enamelling department.

Milk cans go through an altogether different process from that in vogue in the days when they were made by hand. Now a machine stamps out the lower part from a circular sheet of metal. The upper part of the lid is made in a similar way. The top and bottom bands are stamped on by machines and the finished product is not only of great strength, but, what is of importance from a sanitary point of view, absolutely seamless, and no acids or solder are used. Baths in pickle, molten tin and palm oil and tallow are followed by a vigorous polishing with "sharps," or second-grade flour, and then we have the bright and shiny finished product. Two men can make 700 cans a week on these machines.

Frying pans and garbage tins, sanitary pans and bath-heaters, as well as other products of the factory, are all machine-made, requiring skilled operators, but showing a great saving in time and labour.

Aluminum Utensils.

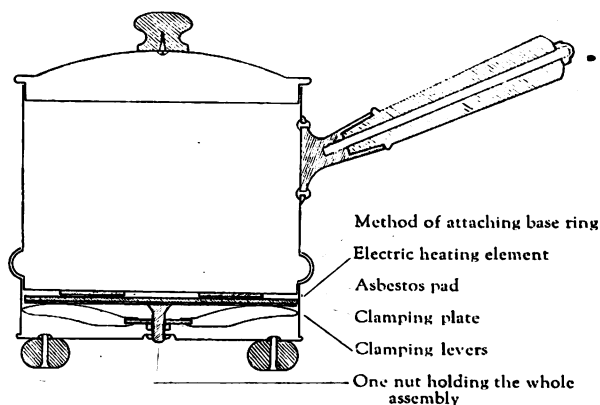
The Hydro Press Co. Pty. Ltd., of Burnley-street, Richmond, Victoria, have manufactured aluminium domestic appliances for some years now. They were amongst the first in Australia to enter seri-

ously into this class of production, and have steadily progressed until to-day they are able to supply high-grade goods in any reasonable quantity. Only the good quality aluminium is used. Paper-weights are left severely alone.

A complete range of utensils is now listed, including saucepans, stewpans, milk-boilers, kettles, casseroles, frying-pans, steamers, and canister sets. The designs are modern, and in many cases original, while prices are competitive. Bronze handles with wood grips and knobs combine to give an attractive finishing touch to the goods, which are excellently polished. The extent of the range may be judged from the fact that saucepans are regularly made up to sixteen-pint capacity, and a stock pot of large size is a fine piece of work.

Perhaps the most striking development in "Hypresco" products, as these goods are named, is the use of aluminium in electrical utensils. So far as our knowledge goes, this is the first occasion on which pure aluminium has been adapted to this purpose, and the advantages are numerous. Experiments have, we believe, been made in other countries in this direction, but, so far, apparently without success. The confidence of the firm under notice in their latest product is evidenced by the twelve months' guarantee which accompanies each article from the factory.

Our illustration gives a cross-section of the aluminium electric saucepan. The method of attaching



the base ring will be noted. It is an essential part of the whole. The heating element includes an asbestos pad, which lessens the period of heating and also keeps the vessel warm for some time after the current is switched off. The special features of this electrical equipment are patented. The construction is wonderfully simple. In place of the dozen or more bolts which are usually required to attach the heating element to the body of the vessel, a clamping plate, and four clamping levers form a double cantilever fitting which is easily held in position by a single nut in the centre. The result is the absence of bolts in the bottom of the saucepan, with consequent difficulty of cleaning, while the removal of a nut, which a child can accomplish, permits the element to be changed in a moment if necessary. The article is stamped in one piece, and no soldered or riveted joints are used.

Not the least of the advantage of the new method is that no cut-out is necessary, with the trouble and expense of renewal in the case of the utensil "boiling dry." No damage is possible under this system. In tests made for the purpose with a dry saucepan, it was demonstrated that after the current had been on continuously for seventeen hours, there was no injury whatever beyond a slight discolouration of the metal. Even the wooden feet were unharmed, although the heat was maintained at well over 500 deg. Fahr. This may be readily

understood when it is remembered that aluminium melts at 1292 deg.

The finish of these appliances is such that they may be used in the dining room without appearing out of place. No plating or tinning is employed, and the wooden handles, which may be replaced at a trifling cost, are always cool to the touch. Both kettles and saucepans are obtainable in the electric patterns. Saucepans are made to take the standard "Hypresco" steamers and porridge or milk boilers. The makers emphasise the fact that they are able to supply these vessels at a price which is less than similar lines of the conventional type.

A series of electric radiators is also catalogued. These include a number of pleasing designs, providing for all tastes. A "period" model will appeal to many for its simple lines and sturdy construction. Another is known as the "Fire Screen" model, serving the dual functions of screen and heater. The finish is of oxidised brass, and the height 24 in. Either 800 or 1000 watt element is supplied with this pattern.

Gas Stoves and Fires.

The Parkinson Stove Co. Ltd., who are amongst the largest manufacturers of gas stoves in the world, have for many years supplied Australia and New Zealand from their British factories. Recently they decided to establish a plant in Australia, and in June, 1927, a large block of land was secured at West Footscray, close to Melbourne, for the purpose of carrying on this class of production. Pushed on with remarkable expedition, the new plant was officially opened on December 7 of the same year, when the first metal was poured by the Premier of Victoria. The new company is known as the Parkinson Stove Co. (Australia) Ltd.

This Australian factory is modelled on the company's English works. It embodies all the machinery and appliances necessary for the production of high-quality iron foundry, and is built upon the foundation of a century's experience and research in this kind of manufacture. At the opening of the factory, the head of the parent organisation, Sir Henry Cowan, gave an assurance that the character of the various products would be equal in every way to the output of the Home works. We learn that one of his last injunctions to the staff before returning to Britain was a reminder of that promise made to the people of Australia.

From an inspection of the materials and parts in various stages of manufacture, it is possible to say that every piece of metal worked, and every detail of construction, conforms to this high standard. Nothing is permitted to pass the testing room until it is as perfect as human skill can make it.

The first impression the visitor has upon entering the doors is that of perfect order, cleanliness, and light. There is an absence of the untidiness and confusion which is too often found in shops devoted to this class of business. The various processes move in a regulated system, commencing with the raw materials at the rear, and reaching completion in the delivery department in front.

The pigiron is stored at the back of the works, and is raised by a lift to the cupola. From the cupola the molten metal is passed to the casting shop, and thence to the dressing section. Here the castings are cleaned and smoothed on the wheels. As the castings proceed to the following processes, they pass over a scale platform which lies flush with the floor, the weight being thus taken without holding up the operations for a moment.

From this point the castings go to either of two destinations. Those upon which no further work is necessary go to the casting store, while the others pass to the machines where drilling or machining is

carried on. Drilling is now a highly specialised process, and machines have been developed which are precisely adapted for the particular work. Here is one of the most important features of the Parkinson company's methods. Perfect interchangeability of parts is insisted on, and this accuracy of standardisation is one of the chief points of production. It enables the trader who handles their goods to be assured that each component will fit into place without adjustment, a point which will be readily appreciated by the trade.

All castings now move to the casting store, and thence materials are drawn as required for assembling. From the assembling department the constructed work goes to the adjacent testing room. Here the testing staff scrutinise every least detail of the job. Nothing goes past this point unless it is without fault. The fitting of oven doors is considered of special importance, and our friends of the various gas companies' showrooms will, no doubt, fully appreciate this fact.

The "blacking" department comes next in the sequence of processes. The old method of hand brushing has been discarded long ago in favour of the modern spraying process. It enables the work to be done more expeditiously and makes a better job. After being sent to the warehouse adjoining, there may yet be additions to the now partly completed job. Enamelling or nickel-plating of both are still to be attended to.

In both of these departments the general equipment and layout are a revelation to those acquainted with the conditions usually associated with this type of work. The practical and common-sense arrangement of appliances, and the order and cleanliness of the whole are admirable. It is just here that the long years of experience and experiment are evident. The enamelling completed, another visit to the fitting-room is necessary, and thence the finished goods go to the store, where packing and delivery are facilitated at a point where the carrier may pick them up at the street door.

In front of the building are the large white-walled display rooms, where stoves and gas fires of every design are on view. The examples here seen are worthy of close inspection by those interested. One might venture the opinion that if the Home plants are able to turn out better work than the new Australian factory they are entitled to some credit. Whether for quality of casting or for construction and finish, the visitor will be more than satisfied.

From the doors of the factory the staff look out upon wide spaces, making it a pleasant place to work in. An area of twenty or thirty acres is available for future expansion, while the works are so designed that doubled or trebled capacity is possible in quick time when necessary. Mess rooms and all conveniences are provided for both sexes, and as time passes trees and shrubs will add to these attractive surroundings. The whole forms a welcome addition to the industrial growth of Australia.

The policy of the company is to use Australian materials whenever practicable. Much of the plant and machinery was produced locally, while the necessary supplies of pigiron, large quantities of which are absorbed in the factory, are exclusively Australian.

The directors of the Parkinson Stove Co. (Australia) Ltd. are Sir Henry Cowan, M.P. (chairman), Messrs. F. R. Smith, W. W. Parkinson, J. A. Macleod, Franklin Thorp, and D. MacCallum Gibb. Mr. J. M. Macfarlane is the resident director, and the company are represented, as they have been for many years, by James Balfour & Co., of Henty House, 501 Little Collins-street, Melbourne. Mr. F. Ayre, who has had many years' experience with the parent company, recently arrived from Birmingham to take over the management of the new works.

Water Softeners.

Mr. R. J. Fletcher, of North Geelong, Victoria, is a maker of zeolite base water softening plants, suitable for all industrial and domestic purposes, and believes he is the only maker in Australia. Zeolite is a secondary material consisting of hydrated silicates, and that used by Mr. Fletcher is obtained by the direct combination of compounds of silica, alumina and soda.

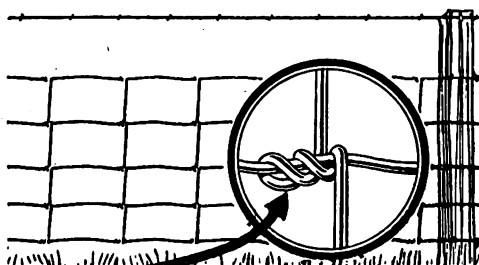
The plant consists essentially of a steel shell, capable of resisting a high pressure, a valve system for controlling the flow of water when cleansing or regenerating, a tank or vat for the preparation of the cleansing agent—ordinary common salt—and the necessary charge of "mollinite" material. Different sizes are manufactured for treating varying quantities of water from varying sources of supply. The dimensions of the container may range from 8 in. in diameter up to 8 ft., and from 4 ft. to 12 ft. in height. Mr. Fletcher says he has plants in operation treating from 50 to 50,000 gallons of hard water per day.

There are no moving parts, and no mechanical power is required. The life of a plant is indefinite. As to upkeep, the only expense is for the common salt used for the cleansing of the lime and magnesia from the "mollinite" material after it has been saturated by the hard water passing through it. A minimum of unskilled attention is called for—about half an hour a fortnight for domestic plants, and about half an hour a day for larger industrial units.

These softeners can be used under any conditions, either fed from the municipal water supply by service pipes, or by pump from river or well. Only three connections are necessary, one from the source of supply, one to the service, and one to the waste drain. No sludge removal problem arises. Everything is water clear. The water, after treatment, is quite as good as rain water.

"Cyclone" Metal Gates, Fences and Fly Wire.

Last year we had occasion to mention the "Cyclone" fly and mosquito wire developments. In twelve months the progress in this department of



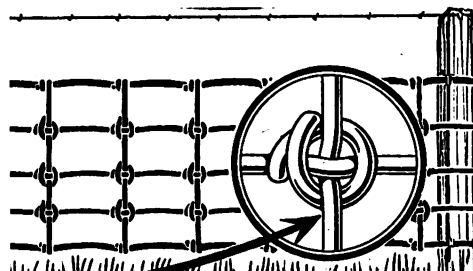
The Wrapped Upright Stays are Perfectly Smooth—No sharp Points to catch the Wool.

the company has been very great. The appeal is not only to the patriotic sentiments of users, but also to the pocket, and to the desire for comfort, cleanliness and health. So efficacious in use is "Cyclone" fly wire, so moderate in price and so good in quality that the company have now over sixty looms fully employed day in and day out all the year round on this commodity.

"Cyclone" fly wire is made in galvanised or bronze wire—galvanised 33 gauge, 28 gauge, 26 gauge, and 24 gauge, all 12 mesh for flies, and 33 gauge 16

mesh for mosquitoes. The widths are standardised from 24 in. to 48 in., the special widths for fly door makers being 25½ in., 27½ in. and 29½ in. The bronze fly wire is 33 gauge 14 mesh in widths of 24 in., 30 in., 36 in. and 42 in.

In the fence department of the company there have been some important developments during the past twelve months. The spring coil fence is undoubtedly still the best all-round farm fence, but with the progress of mixed farming it was apparent that, on the one hand, a lighter fence, and on the other hand, a heavier fence would be an added convenience.



One Piece Stiff Upright Stay of 11 Gauge Galv. Wire. "The fence with Some Backbone"

Having this in mind, the company, after full inquiry and many and severe tests, placed on the market last year the "Cyclone" high-tensile (h.t.) spring coil fence. The line wires are patented high-tensile galvanised wire 12½ gauge with 13 gauge galvanised wire uprights 12 in. apart, and wrapped by machinery round the line wires. The difference in weight is indicated by the fact that it is sent out in ten chain rolls. This fence is light to carry and handle and takes up little room when stored, but it is enormously strong.

Like the original "Cyclone" spring coil fence, the wrapped upright stays are perfectly smooth and have no points to catch the wool of sheep. The new fence has already made a place for itself in those districts where transport is difficult, and weight and dimensions count. It is also correspondingly less costly.

The "Cyclone" stiff stay spring coil fence, which has only recently been put on the market, is wonderfully built. It has been described as "the fence with some backbone," and it is already giving a great deal of satisfaction. The top and bottom wires are 10 gauge galvanised wire; the intermediate line wires, uprights and non-slip ring-locks 11 gauge. This fence is sent out in five-chain rolls. Like the company's other fences, the stiff stay is elastic and shock-resisting. The non-slip ring-lock which binds the line wires and uprights together is constructed so as to resist the pressure and thrust, upward, downward, or lateral, made by the heaviest stock.

The "Cyclone" stiff stay pig fence is very strong. The upright stay wires are only 6 in. apart, which greatly increases the strength and resisting power of the fence. Pig fences are also made in the "Cyclone" wrapped stay fence and the high-tensile fence.

Some new designs have been added to the very long list of "Cyclone" ornamental and paddock gates, and the "Cyclone" stretcher, which is becoming more and more popular, has been improved.

The Cyclone Fence & Gate Co. Pty. Ltd. have their factory in Abbotsford, and head office at 191 William-street, Melbourne, and there are manufacturing branches in Sydney and Adelaide.

Bringing Them To The Window

By Thomas A. Lewis, (London)

It has been well said that the success of a window attraction is measured by the readiness with which attention is transferred from it to the goods which are on display or are being advertised. A crowd may be drawn to a window by an unusual novelty or announcement, but, unless this links up with the goods the trader has for sale, much of the value of the attraction is lost.

A Working Model That Didn't Work.

A man of my acquaintance told me recently that for several years he has passed the shop of a trader who exhibits in his window a fine working model of a steam-engine, and who has done so for as long as my informant can remember. Yet on my asking what class of business was being carried on, I got the reply: "I haven't the least idea, although I have stopped on several occasions to examine the mechanism of the model."

I ascertained subsequently, after a personal visit, that the trader was in business as a dyer and cleaner, and an inspection of his window soon showed me how his ingenuity had gone to waste, for beyond a tiny card, bearing his name and the words "Dyers and Cleaners" (which card, by the way, was placed as far away from the model as the confines of the space would permit), there was nothing to carry the interest of the window-gazer beyond the model. Here, indeed, was a case where the article placed in the window to draw the curious gaze actually drew it away from the information which really mattered, as far as the trade was concerned.

All the Window-looker Remembers.

This is not an extreme case. I have often seen mechanical contrivances in shop windows, and, in common with many other people, have stopped to see how they "worked," and yet have gone on my way without being any the wiser as to the kind of business being carried on in the shop. Now, that is the wrong kind of window-attraction; it does not leave the correct impression upon the spectator's mind. All he remembers is that there is a clever working model in a shop-window in the High Street—or wherever it is—but whether the trader is a baker, a grocer, or a wireless dealer, is a sealed book to him.

No doubt many of my readers will be exercising their minds as to a suitable display for a particular season, and a number of them will in all probability use one of the stock working models which can be hired for a short period. I commend their enterprise, for there is nothing like movement to draw the attention, but I do suggest that those shoppers who look in the windows where the models are being shown should be given every opportunity of taking away with them all the information that it is possible for them to glean regarding the retailer's wares. This can be accomplished by linking up with the figure some article or phrase which will help the passer-by to memorise the trader's name and the goods he sells.

A Really Effective Display.

One of the most intriguing and helpful window attractions I have ever seen was shown a few months ago in a chemist's shop near Euston Station.

A miniature magician, whose moving wand and rolling eyes commanded attention, had in front of him a small circular table, upon which he held an inverted conical cap. An impressive waving of the wand preceded a manipulation of the cap, which, when lifted from the table, disclosed the fact that there was nothing beneath it. Then the cap was replaced on the table, to be raised again after a pause of a few seconds, during which time the magician made much play with the wand and his eyes. But by this time a drinking-glass was disclosed where previously there was nothing. Down went the cap again, to be raised for the third time, when it was seen that a proprietary article reposed where the glass had been. Another manipulation and the lifted cap disclosed an empty table.

Naturally, the attention of the jostling crowd around the window had been held by the cap and what it covered, and so, when the actual article appeared, every eye was focussed, and all thoughts were concentrated upon it. Indeed, I heard several people repeat quite loudly the name of the specific as it came to view, and there is no shadow of doubt that the model earned its keep over and over again. Now supposing, instead of the actual article being shown, a marble, or something of that sort, were substituted, there would be no diminution of the crowd and no less of interest, but the sales value of the display would have lost half its force, as the reader can well imagine.

A Word in Season.

I hope that a brief interpolation here will be forgiven, but I feel that I must stress the necessity for clean windows if a display of any sort is to be successful. Finger marks or smudges on the glass detract from the general appearance of the show, and, consequently, a little elbow-grease in this direction will have its reward. Do not wash the windows, however, while the sun is on them, or they will be streaky. Tissue paper makes a fine polishing "cloth" as, indeed, does any soft paper. If the window is an enclosed one the risk of frosted or steamy windows is not so likely as where the window space opens directly into the shop. A little glycerine applied to the window after cleaning will prevent particles of frost or steam obstructing the view. Perhaps this advice may sound unnecessary, but if you can ensure your window-glass being perfectly transparent when shoppers are wondering how to lay out their money you will be saved the annoyance of having a wonderful show at which nobody can look because Jack Frost, or some other obscurant has been busy!

More Eye-Catchers.

Another window attraction that I saw the other day struck me as being very effective, although, I must admit, somewhat blatant. A number of rubber balloons had been inflated and placed in a closed-in window. By means of two or three electric fans these were kept in motion, and, as they bumped here and there against the various articles displayed, they focussed a certain momentary interest on those goods.

In this article I have dealt almost entirely with one form of window attraction, namely, that produced

by motion—but it is reasonable to assume that circumstances or inclination may, in individual cases, render impossible this form of drawing attention to one's wares. Heart of grace can be taken, therefore, in the thought that there are other mediums for bringing the interested gaze of shoppers and others to the window. Three of these come to mind as I write:—Colour schemes; Illumination; Arrangement.

The colour scheme can be carried out by means of the goods themselves, or by the use of display-aids and backgrounds. Illumination must, of course, enter into almost all displays, but a little manipulation of the lighting effects may easily bring your window under the notice of many people who, ordinarily, might pass it unscrutinised.

Couldn't Help Seeing It.

Let us say, for example, that you have something really special to which you wish to bring undivided attention. Arrange then, to darken the window and to throw a strong spot-light upon the article. Within the last few days I have seen this treatment accorded to a solitary "topper" hat in a huge window, and the result was most effective. You simply couldn't miss seeing that hat whether you passed the place on crutches or whizzed past on a fire engine. There are many methods of manipulating lighting, but so much depends upon the shape and size of the window, and other considerations, that it would be futile for me to go into details now.

The efficient arrangement of the various units is another method of attracting attention to a window. This, too, is much too wide a subject to be discussed here, besides which the goods themselves are the first things to consider, and not all traders sell the same lines. But I would say that the articles to which you most particularly wish to draw attention should normally be placed as near to the centre of the window as possible, well forward, and at eye-height. The other goods can be taken in by the eye of the window-gazer after he has seen what you most wish him to see.

Tennis Gut Manufacture

British Music Strings Ltd., of London, give some interesting facts regarding the production of gut for use in tennis racquets and stringed instruments.

The raw material is the entrails of sheep, the countries of origin being England, Scotland and Wales. The best grades come from the South of England. Here the intestines are more expertly prepared by the slaughterers, and are also very much thicker and less "veiny" than from any other source. Scotch and Welsh gut is thinner and shorter, while that from the north of England, although superior to the former, is still inferior to the product of the south.

The "extra superfine" quality, therefore, comes from the south of England, the first grade from the north, and the third and cheaper grades from Scotland and Wales.

Research has shown that for tennis strings whole gut, and not the split variety, is the best. Whole gut can be given much more twist, and consequently has more resilience. The average breaking strain of the "extra superfine" is 120-130 lb.; first grade averages 110-115 lb.; second grade, 90-100 lb.; while the cheaper kinds vary from 75 to 85 lb.

An important point is the question of stretching. Many makers are said to overlook this quality, aiming rather at the matter of colour. When a racquet is strung with a gut which possesses too much "stretch," it is likely to slacken after a few weeks, and loses its resilience. This company consider the

"stretch" allowed in many makes of gut is far too much; whereas the average is from 6 to 9 in., theirs is from 3½ to 4½ in.

Much depends upon the preparation of the material before manufacture. After long experiments, it has been found that the best results are obtained by scraping twelve times. This greatly aids the colouring process. Each individual strand is dyed before being spun into string. This prevents a merely surface colour which is liable to fade.

The most economical production is ensured by carrying on the manufacture of music strings as well as tennis gut. The factory is thus able to use short ends for ukulele strings, covering gut, and other lines which do not require long pieces. In this way it is possible to show a considerable reduction in price.

The raw material is collected by the company's cleaners direct from the abattoirs. Perfectly fresh gut is essential. After placing in an alkaline solution, which has the effect of strengthening the strands, superfluous fat and foreign matter are removed by drawing past a metal scraper. The lengths vary from 30 to 35 yards. No joining is permitted, so as to avoid any possibility of weakness.

The twisted process follows, several strands being added, the number of which is decided by the desired thickness of the finished string. Special machines are used for twisting. No adhesive is required, the natural glucose in the gut sufficing for the purpose.

The partly finished strings are next subjected to the fumes of burning sulphur for clarification. Up to this stage the material is in a moist condition. It is now stretched on frames and dried, a certain number of "turns" being given to ensure even treatment. This work, which would appear simple, requires the judgment of long experience to ensure a high-grade product.

Later comes polishing to remove any roughness. Here again knowledge and care are essential. The art of polishing consists in giving the best possible finish without impairment of strength.

After drying in a warm room, the gut is inspected for any flaws, and tested for breaking strain. The subsequent cutting and coiling, provided it passes the tests satisfactorily, complete the process.

The company's manager states that, although gut is commonly said to deteriorate with age, this is only partly true. A period of seasoning in air-tight tins actually improves a string, if it is of the right quality. On the other hand, a poor-grade string is quickly impaired with time.

These particulars are from Ryall & Brock, of Melbourne, who are Australian representatives for the company mentioned.

BUSINESS FOR SALE

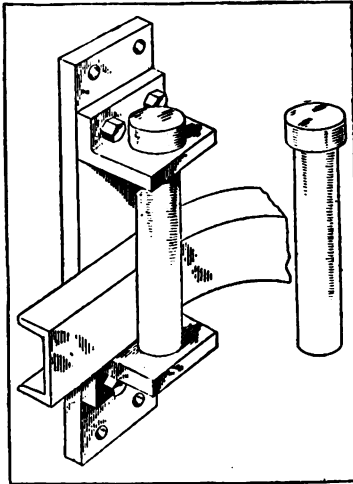
An old-established Hardware Business, consisting of Buildings, Ironmongery, Timber and Iron Yards and General Produce, centrally situated and well and suitably appointed in a settled country district, within ninety miles of Melbourne. The buildings can be either purchased or leased. The sale is for family reasons, and offers a rare opportunity to acquire an old and well-established business. Full particulars on application to Sandhurst and Northern District Trustees, Executors, and Agency Company Limited, 18 View Street, Bendigo, Victoria.

Workshop Hints

From Various Exchanges

Fixture for Bending Iron.

Light shapes up to 4 in. wide may be bent cold with the aid of the device illustrated. It may be attached to any convenient column strong enough to stand the strain imposed on it.

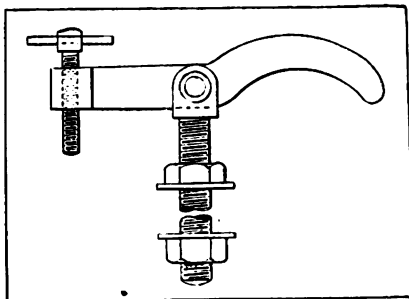


The device consists of two angle plates of 1 in. by 6 in. iron, attached to a flat plate. Aligning holes in the horizontal faces of the angle receive a headed removable pin that can be readily taken out and replaced. This pin should be about 3 in. in diameter.

An I beam or channel 20 ft. long may be easily bent to any desired radius by two men pulling on the free end.

Drill Press Clamp.

A drill press clamp, which, although very simple, has a wide range of application, is seen in the illustration.



The clamp can be attached to the press table by the long centre stud and two nuts and washers. Its height can be adjusted by the nuts and also by placing a block under the thumb-screw.

Its main feature is that, as the work is held on the side away from the screw, the device is serviceable under almost any conditions.

Abrasive Discs.

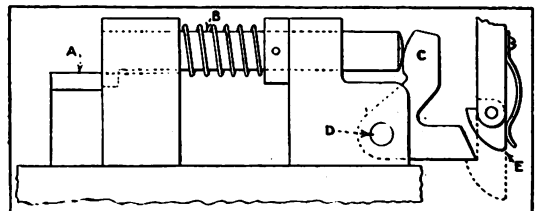
Abrasive discs cannot be selected according to a general hard and fast rule, but carbide of silicon and manufactured alumina generally are used for grinding cast iron and steel respectively. Non-ferrous and non-metallic materials generally are ground with carbide of silicon. Garnet and emery discs are used extensively. The finish desired should govern the grain of the material.

As a rule nothing coarser than No. 16 is used to finish surfaces less than 3 sq. in. in area. Nothing coarser than 16 is used to finish steel or brass; with the possible exception of steel castings. Nothing coarser than 24 should be used on brass unless a large amount of stock is to be removed or where a fine finish is not necessary.

Number 46 is used extensively for grinding small surfaces on brass and for the finish grinding of cast iron and steel. All grain sizes from 12 to 70 are used on cast iron, the size depending upon the amount of stock to remove, the area of the work and the finish desired. In general, where the surface is more than three or four square inches in area, No. 12 or 16 will give good results.

Automatic "Knock-Off."

The device illustrated is for ejecting small parts formed in a press on the projection A. It consists



of a spring plunger B; a bell-crank, C, pivoted at D; and a spring latch E attached to the punch holder.

In operation, when the ram descends, the latch engages the horizontal member of the bell-crank, as shown by the dotted lines. On the upward stroke of the ram, the latch rotates the bell-crank about its pivot, imparting motion to the plunger, and thus stripping the work from the projection on which it was formed. When the latch disengages, the plunger spring forces it back and leaves the projection clear for forming another piece.

Cleaning Leather Belts.

Frequently a belt becomes so saturated with oil that it loses most of its efficiency.

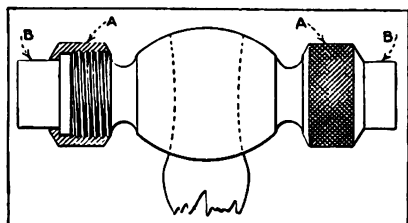
A good method of removing the oil is to remove the belt from the machine and immerse it completely in benzine. After the oil has been absorbed, remove the belt and leave it in a loose coil until dry. Care must be taken that the belt is placed in a place safe from fire until properly dry.

A light dressing of neatsfoot oil then applied puts the belt in good driving order.

Toolmaker's Hammer.

The illustration shows a hand hammer with removable faces that is very serviceable to toolmakers.

The head is threaded at both ends to receive the knurled retaining nuts A, by which properly shaped pieces, as shown by B, can be held firmly.



Such a device makes it possible to use pieces of copper, brass, lead, fibre, raw hide or other material that will not damage the work.

It is a simple matter to remove and fit faces of the desired material.

Fixing Pencil Drawings.

It is probably not known that an ordinary pencil drawing can be fixed so that the lines become a bright black and resist all attempts at erasion.

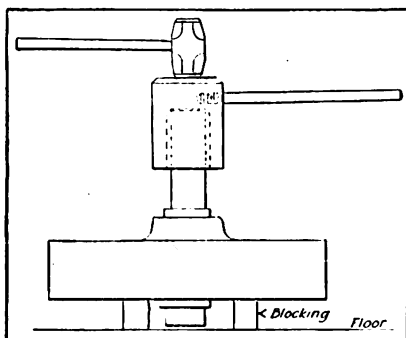
The drawing should be made with a 2H or 3H pencil, after which it should be damped and placed on a zinc plate. A metal roller is then passed to and fro over the paper, the roller being connected through a suitable electrical resistance to the zinc plate. An ordinary lighting circuit is suitable, providing it is direct current.

The current passes through from the zinc plate to the roller, and forms on the graphite marks a zinc deposit which combines chemically with the size in the paper. No chemicals are required, but a little lime water added to the water may improve the process by neutralising any acids that may be present in the paper or water.

Heavy pencil marks are best; the process does not damage the paper in any way, and can be used for all classes of work.

Safety Striking Piece.

In jobbing shops that employ manual methods of making driving fits the device illustrated is bound to prove of great service.



The device will stay in place until the shaft is driven home, and, in some cases, does not require a man to hold it.

It is perfectly made of nickel steel and heat treated so as to be as tough as possible. It may be fitted with a rod handle of sufficient length to enable the operator to stand a safe distance from the swinging sledge.

Preparing Iron and Steel for Painting.

Painting of iron and steel work frequently presents a problem, especially to those who have had little experience in such work.

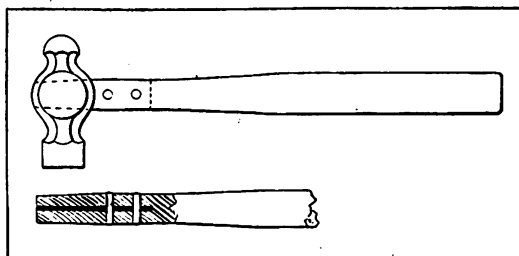
It will be noted that in structural metals, such as are used in factory and bridge work, the surface is somewhat glazed. This is caused by the rolls in the mills and by borax used in the process of rolling.

When such work is painted the paint peels off in spots after a time, and the metal will become rusted. Paint sticks well to a rusted surface owing to the minute pits that hold the covering material. To re-paint such work, however, is costly and unsatisfactory. Considerable time and money can be saved by applying a chemical solution to remove the glazing beforehand, leaving only a light coat of rust.

Any class of material can be treated like this—contractors' equipment, machine castings and many others—with highly satisfactory results.

Breakage of Hammer Handles.

The life of a hammer handle can be increased under normal circumstances by a very simple method.



Cut a saw kerf in the end of the handle and insert a piece of $\frac{1}{8}$ in. sheet steel, riveting it in place as shown. Dress the edges of the steel and the ends of the rivets down flush with the wood. This simple operation has been proved very effective.

Machining Aluminium-Silicon Alloys.

Aluminium-silicon alloys have of late years been established as a commercial proposition. They are made in three groups—No. 1, with a silicon content up to 8 per cent.; No. 2, with a silicon content between 8 and 15 per cent.; and No. 3, containing a small percentage of copper.

In physical properties No. 2 is superior to No. 1, but it requires careful treatment in the foundry. No. 3 has increased hardness and tensile strength, but less ductility and resistance to corrosion. The castings can withstand shocks and some rough usage. They can be machined as easily as other aluminium alloys, and the tools should be ground similarly. It is impossible to make rigid rules, as the machining properties differ slightly with different batches of castings. Paraffin oil is a suitable lubricant.

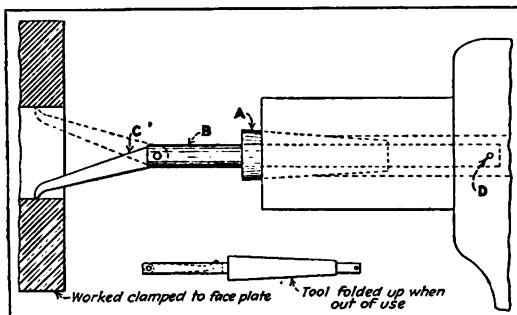
Tapped holes should be avoided; the threads quickly wear down if the screw is frequently removed, while if it is a tight fit it will probably bind. Where screws are permanently fixed, however, this objection does not hold. The effective grip of the screw should be at least 1.5 times the diameter. Where screws are to be fitted that will be frequently removed, it is better to drill an oversize hole in the alloy and fit a bush of brass, or similar metal, and arrange the tap in this. On all possible occasions use through bolts with large washers at each end.

The properties of the alloy may be seriously affected by foundry treatment. If the alloy is allowed to overheat or oxidise the casting will probably have hard spots. As the alloy when molten has high fluidity, castings of large and intricate sections can be made reasonably free from porosity.

Feeler Indicator for Faceplate Work.

A little tool that often facilitates faceplate work is shown in the illustration. It finds its use in setting faceplate work true by a bored hole without revolving the lathe.

The tool consists of a body A, fitting the tail stock spindle; a sliding rod B, fitting the body; a caliper leg C, and a retaining pin D. All the parts are made of steel and are carefully fitted. The feeling point of the caliper leg should be hardened.

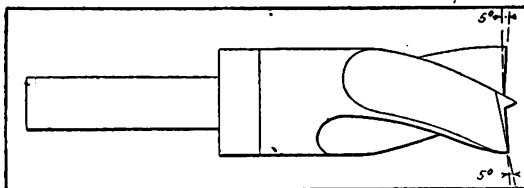


Rod B is slotted far enough down to enable the caliper leg to be folded back into it, when the tool is out of use. In operation, the tool is put into the tailstock spindle, and the caliper leg is set, so as to touch one side of the hole. Now slide the rod back far enough for the caliper leg to clear the work and give it a half-turn. Then advance it to bring the caliper leg to the hole to determine the amount of the eccentric location of the hole in one direction. Giving the rod first a quarter-turn and then a half-turn will show the eccentric location in the other direction.

It is to be noted that the tailstock spindle is not moved at all, the rod C sliding back and forth in the body of the tool so that the operator can easily feel the setting.

Drill for Leather and Fibre.

In drilling leather and fibre it is almost impossible to make a clean, smooth hole by using either a wood bit or a twist drill.



For such work the device illustrated has been proved very effective. The drill is held in a chuck in a lathe, using a tool post grinder and a small wheel to grind the lips flat and to form the sharp point. The clearance on the lips is ground by hand on a bench grinder, care being taken not to injure the point.

Nickel-Chrome Alloys

By Fred. Grove-Palmer, A.I.C.

When welding chromium-iron alloys in which there is more than 10% of chromium, there has been found to be little difficulty if the vessels are required for ordinary purposes, but when used for high-pressures, where great strength and ductility are needed, the results have not been good. Certain of the researches of the Union Carbide and Carbon Co. have been devoted to the solution of the difficulty, and have given rise to some interesting discoveries.

When the welding operations are in progress the chromium becomes oxidised, and this chromic oxide is infusible, but, unlike many infusible slags, it does not float to the surface, remaining in the softened metals. It is obvious that, unless the slag is removed, it will form a grave source of weakness in the weld, and therefore the introduction of a flux is of prime necessity in order to float off the oxide and to prevent the further oxidation of the metallic surfaces.

In addition to this defect, which is essentially chemical, there is also a defect which is more on the physical side, namely, that of poor ductility of both the welded joint and the localised area of the surrounding metal. Heat-treatment appears, from the results obtained, to be the best means of overcoming this fault, but only when the chromium content is under 20 per cent.

Above that percentage the only effective method of combatting the difficulty is to add another metal to the alloy, and the metal found to be most useful is nickel, to the extent of 8 per cent. Examination of this mixture shows that the grain is more refined, while the ductility and power of resistance to shock are very considerably enhanced. All the traces of brittleness at the join are removed, and there is a noticeable improvement in the ease with which the metal can be welded.

The research also showed, however, that the addition of nickel to the chromium-iron alloy was not an unmixed blessing, for it was noted that sulphur compounds will attack the metal surfaces far more readily when nickel is present than when it is not included. This constitutes a very serious objection, and consequently the research was extended in order to find a means of overcoming it. The result was attained by making an addition to the silicon content, bringing it up to about 2 per cent. It was also found to be possible to get the same effect by bringing the manganese content up to the same figure as the silicon; in this way welds were effected without the necessity for using a flux-covered welding rod.

The publication of these results of very useful researches has been the means of supplying information to the welding industry when dealing with alloys containing over 20 per cent. of chromium, making it possible successfully to overcome the difficulties that arise in getting clean joins, and giving at the same time a mixture that will weld more readily and will give greater ductility without the trouble of heat treatment.

Selling What The Public Wants

(Contributed by 77'225)

.....

Old Larsen is a general storekeeper on a Northern river in New South Wales. Originally a baker, with a tiny shop built on the riverside from scraps of discarded mill timber, he has gradually developed into a prosperous trader, supplying the needs of a great countryside. His motor boats range the river for dozens of miles, carrying every commodity of life to a busy community of farmers, settlers, and sawmill camps. He has the reputation of being able to supply anything and everything, and it is his boast that he never refuses an order nor disappoints a customer.

As I was scouring the district for business I determined to see this "character," although I was assured he always flatly declined to buy from a travelling salesman, preferring to deal through a broker in Sydney, who does practically all his buying. The story runs that, in his struggling days, this broker had on one occasion trusted him with a consignment far in excess of his usual small needs at that period, and thus enabled Larsen to secure a good contract which otherwise would have been beyond his slender finances. If this be so, then the old trader, skinflint though he seems to be, at least shows gratitude above what some of us find in ordinary.

When I reached his headquarters I found a number of old wooden buildings stretching along the river-bank. The ancient bakery had evidently been added to from time to time, and a long, rambling structure adjoining was jammed full of merchandise of every description. On closer examination it was evident that here was no mere sample room; ample stocks of all selling lines of the "bread and butter" class were on hand. In an annexe to the bakery was a storeroom, where two girls of the family were busy pickling eggs for future use, a hundred or so full tins being already stacked up to the low, white-washed ceiling.

Inquiring for Mr. Larsen, I was directed to the river wharf, where I found the old fellow superintending the despatch of a motor boat, with a barge in tow, loaded down with a varied cargo of galvanised iron, flour, sugar, tools, furniture, and a score of other commodities. Larsen was a tall, bony old chap, with a rugged face, and just such a frame as is seen daily in the Australian bush. I was wondering vaguely at the man's success, so ordinary was his appearance, until, recognising the "commercial" standing by, he gave me a shrewd glance from beneath shaggy eyebrows.

"Vell! vat can I do for you?" He had retained his Norwegian accent. Knowing old Christian Larsen's habit of cutting a salesman off without a hearing, I flung out a special bait.

"I'll tell you what you CAN do for me if you will, Mr. Larsen."

"Vat is dat?" he snapped.

"Well, you have built up a big business on these rivers from very small beginnings. Will you tell me the secret of your success?"

It was a fortunate question—perhaps the only remark which I could have used to drag another word from the difficult old dealer. I had chanced

to strike a chord which took him right back to those small beginnings I had mentioned.

"Fonny you ask me dat. Vell, I am diffrent from some. I vill tell you. I start my little bakery here thirty-five year ago, chust for der nearby settlers ant sawmill hands. First years me ant my Freda ve struggle along, making der bread and carting it for miles to camps and farms. Ven more people lif round about I notice some von come to der shop ant say, 'Larsen, you got any sugar?' or 'Christian, you got some tea to sell?' and I say always 'No, I not keep her.' Always people asking for something except bread, too.

"All of der neighbours would sent together for goots by large town down der river, but always, too, something been run short. Now, vonce my little girl chust learnt to read, ant she read in Sydney 'Herald' von night how old Antony Hordern vas ask at dinner exact der question you asking me. 'Mr. Hordern, vat is der segret of your success?' Ant vat you tink old Antony say? He say: 'Because I sells vat der public vants.' So; dat lesson hit me straight. I nefer forget dat. 'I sells vat der public vants.'

"So if some vomans come and say, 'Larsen, you got any nails?' I say, not chust yet, but I got some coming next week, sure. Or, maybe, some screws; always I promise to haf some next tam. Ver' small orders first ve gets; ve not got mooch capital. But efery tam I hear vat der settlers round runs short in I sent small order to Sydney. I don't care vat she is: I sells vat der public vants. Byn-by all says, 'Larsen vill get dis for you;' or, 'Vy you don't ask Larsen for dat ting you vant?' I nefer forgets, ant I nefer say no. I sells eferyting, ant dat is how I get slowly my trade.

"I haf sell some fonny tings, too; my vord. Ven old Mother Vaters vas dying, der doctor he tells me no hope. Soon old man Vaters come in ant say: 'Larsen, my old voman gone.' I feel sorry, too, and ven he say good-bye I say, 'Vaters, my frent, happen by chance I got chust der coffin size you need; safe you trouble get her made at der mill; all finished golt nails outside.' He say, 'Right; of course you got von; ant I vant it.' Ves, I sells vat der public vants.

"Twenty year ago I got von day der usual order from up rifer farmer—flour, hardware, all sorts. Ant at bottom of list, chust like ordniry goods, says, 'For Hans Hansen: Von only she-cook, mit intentions to matrimony.' Vell, I sells vat der public vants. So I sends on der order to my broker by Sydney, and he writes back he find der fery voman for sensible man. Next week she come by der boat. I take my spring cart to rifer, and I delifer der goods. Sharge five pounts commission. Ant if you go up by Horseshoe Creek you call on Mr. and Mrs. Hans Hansen, and see if dese ant der happiest family on der rifer; ant don't forget, I supplied der missis for him. A good voman—mit big boys ant girls now.

"Yes; I supplies vat der people vants, and dat is der segret of my success."

Modern Method of Merchandising Hardware

An American Conference Address by R. A. Ostram,
Reprinted from "Hardware Age"

The good old days, as we enjoy calling them, are gone. No longer can we sit in our stores and feel that the Hardware business is ours by Divine right or because we have got a perpetual franchise on it. It is only ours in these days as long as we serve the public as well or better than our competitors. If someone comes along who can do it better than we, then we've got to pass out of the picture—the most progressive and wide-awake dealer is the one who wins to-day.

The automobile and good roads are the big factors which have brought about the changed merchandising habit of the American people. People can travel from one town to another without any effort and buy their merchandise where quality, price, and service suits them best. It has thus not only become a competition of merchants but a competition of towns as well.

The mail order houses and the large national chain organisations have been quick to see the changing merchandising conditions and to shape their methods to fit these new buying habits. Retail hardware merchants have sat tight on the divine right theory, and we find them now at the cross-roads with the current against them.

It is not my idea to stand here before you gentlemen and try to scare you with the chain store and mail-order house, but I only mention them because they were the first to see the changed conditions and to take advantage of them, and because to-day they are the big factors in merchandising. Do you realise that 20 per cent. of all the merchandise sold by these chain stores is hardware that at one time could only be purchased in the hardware store? These chain and variety stores increased their sales of hardware in 1926 over \$12,000,000. Some stores sell as high as \$100,000 of hardware items a year, and the average, I believe, is around \$40,000 per store.

These chains being successful and the thorn in our flesh, it is certainly the part of wisdom to look into the methods they are using, and see if we can apply them to our business. The live independent dealer has nothing to fear—he keeps up with the times and changes with them. It's the "stand-pat"—"good old day" merchant who needs to change his ways.

Now, what are these methods that people demand to-day and which have been the one big factor in the success of such chain organisations as Woolworth, Kresge, McClellan and others? It is founded on this trait of human nature—the desire to see the merchandise—to examine it at their leisure and to bargain for it in their own minds. The principle of selling through the eye is to bring the prospective customer in contact with the largest possible variety of merchandise. And all this means only one thing—**OPEN DISPLAY OF ALL THE MERCHANDISE**—not just twenty-five, fifty or seventy-five per cent. of it, but one hundred per cent.—all of it down to the smallest tack and brad. The chain organisations do not allow any article to be hidden away in the original package—every item must be

out in the open where people can see it and examine it—they know too well that goods blindfolded is dead stock.

It seems almost superfluous to state that all retail business is founded on sales—that profits can only be obtained as the result of selling something. And we must keep constantly before us the fact that the store is solely for the purpose of conducting the selling process—it is the point of contact between the merchant and the public. If this store is not right, then the selling process is going to suffer. Therefore, the following principles must be carried out in the store to get the maximum results:—

- 1st, The interior of the store must be equipped with the type of equipment that will display most effectively the largest possible number of items at the lowest cost per item.
- 2nd. This equipment must be so arranged as to make the store inviting and to pull or urge prospective customers from one display to another, until they have seen all the merchandise carried in the store.
- 3rd. All the merchandise carried in stock must be openly displayed so it can be easily seen and examined, and each item must be plainly priced. This pricing of each item is as important as the merchandise itself.

Hardware store equipment should, by all means, be flexible. That is—it should be of such construction that it can be converted without additional expense to many uses. It should be designed with only one thought back of it—will it help sell more hardware? It should, furthermore, provide adequate, economical and systematic storage so that the stock can be arranged and classified and quickly found. This will enable the stock to be checked more closely—it will help with the buying, and it will save time for all the sales people, which can be devoted to the selling of those larger profit items that require demonstration. The smaller profit items—the common demand items—will take care of themselves when properly displayed and plainly priced. Store equipment is in reality a merchandising machine, and is to the hardware store what the modern high speed machinery is to the factory. In the hands of a capable manager, it will produce the maximum retail profits.

When we reach the subject of store arrangement, we have reached the most important factor in the whole scheme of merchandising. The best equipment in the world, poorly arranged, will not produce half the results of poor equipment properly arranged. Woolworth and Kresge, for example, have long realised this and have devoted the best merchandising brains in their organisations to this one problem of store arrangement. That is why each Woolworth and each Kresge store is exactly alike—they have worked out an arrangement that produces the maximum profits for them, and they never change it except for experimental purposes.

Not over 5 per cent. of the customers who enter the present day hardware store, ever get to the rear. With the large variety of merchandise carried in stock by the average store, it is impossible to secure adequate display in the front half. Now, remember the store is a selling machine—not a warehouse for storage purposes—every square foot of floor and wall space should be devoted to only one thing—display of merchandise—and with only one purpose in view—that is sales. This being true, why is it that the vast majority of customers never reach the back of the store? Because the average hardware man to-day is displaying only a small percentage of his hardware, and at the front of the store, and leaving the rear half a dark hole that no one wants to enter. He is trying to sell in the front half and is warehousing in the rear half. If the store is to be successful, every inch of it must be used for selling—the customer must be enticed to the rear of the store with merchandise openly displayed and priced every foot of the way—then across the rear of the store and back the other side—nothing but merchandise with attractive price cards and signs announcing bargains and making suggestions.

The side wall shelving should not be over 7½ feet high, and should consist mostly of the display door type. Back of these doors, stock boxes should be used instead of storing the goods in the original packages. This enables the stock to be stored more systematically and saves space—in fact, almost doubles the storage capacity. The doors should be neatly sampled, and each item plainly marked with the stock number and size, location of the stock, and the selling price.

The centre equipment in the store should not be over thirty-four or thirty-six inches high. In this way, it is possible to easily see over the entire store. People coming in then have the opportunity of seeing a large variety of goods on display, and it encourages them to circulate through the store. In re-arranging the store, bear the one thought in mind—that your sales will be in proportion to the number of items displayed. See that every available inch of display space is utilized.

Now, a word about the displays themselves. Nothing is as important in the interior of the store as the arrangement and type of displays used. No display should be put into the store that cannot be quickly and easily changed. The chain stores change their displays once a week, and you should do the same. Keep your displays on the move—don't let them get old. If a woman comes into your store and sees the same display of goods week after week, the novelty wears off. It gets to be the same old store—it's like yesterday's newspaper—no one wants it.

There is no best place for a certain department the year around, because the best arrangement for any store is a constant change. Let the customers know you are awake—keep things moving continuously. This method of handling your displays will make your stock look many times larger, and more complete. It also has the added advantage that you never have any dead stock, because there is no place for the stock to hide—it is being kept out in the open. You can quickly tell what stock is moving and what stock is slow to sell. The slow sellers can be reduced in price and got rid of before they "eat their heads off."

How many items are carried in stock by the average hardware store? About 5000 items is a very close figure. Now, what percentage of these 5000 items is displayed by the average hardware store? Twenty per cent., or not over 1000 items is giving the hardware store just a little the best of the bargain, but we will use that figure. Here is a most necessary industry, distributing a most

essential merchandise, displaying twenty per cent. of it and trying to compete with other distributing organisations who display 100 per cent. Isn't that the very reason why over 48 per cent. of the hardware retailers of this country are not making one dollar, but are actually losing money?

In closing let me tell you of an incident that happened in my town and that I know is happening in other cities as well. A lesson can be learned from it. Duluth, Minnesota, is a town of approximately 125,000 people, and about a year and a half ago a hardware store that had been in the same location for many years on our main business street, was forced to move because they could not get sufficient volume of business to warrant paying the rent. A short while later Woolworth opened a store in the same location, and is doing a big business there in spite of the fact that they have another store just a block and a half down the same street.

You can say it is price, or it is buying power, or it is something else, but I tell you, gentlemen, it is none of these. It is merchandising methods. If the chain stores used the same methods in conducting their business that are found in the average hardware store to-day, there would be no Woolworth Building on Broadway. It is merchandising methods and nothing else, and you might just as well face the true facts now as do it later.

When you go back from this convention, look at your store from the standpoint of an outsider. Compare it with the Woolworth and Kresge chain stores you have seen. How does it measure up to that standard? Are you actively competing, or are you just keeping store—working on the old "Divine right" theory, and waiting for the business to come to you? Is your store well lighted, is it neat, clean and attractive, and is your merchandise all out on display and plainly priced? Are your window displays properly done and changed once a week? Are you really merchandising? Ask yourself these questions. Don't leave the door wide open for the chain store, the drug store and the mail order house. You have every advantage, if you will only use them. Keep hardware business in the hardware store.

DON'TS FOR FOREMEN.

(From "American Machinist.")

Don't forget—the Golden Rule.

Don't forget—you are building character as well as engines.

Don't forget—foremanship implies leadership; it is not a mutual admiration society.

Don't ignore—the inspector; he is your best friend.

Don't forget—contented men hold your job down for you.

Don't disparage—one man to another in the department. It is not cricket.

Don't—try to wear the medal due to one of the men for suggestions.

Don't expect—a standard of ability from the men that cannot be attained by yourself. Take your own physic.

Don't—when called down by the boss, try to pass it on; wear it. The salutary effect may do you good.

Don't forget—the old lady who, watching the soldiers pass by, ejaculated: "They're all out of step except our Bill."

Royal Agricultural Society of New South Wales

Annual Metropolitan Show April 2 to 11, 1928

Special Report by our own Representatives

The one-hundred-and-sixth annual show of the Royal Agricultural Society of New South Wales sustained the tradition of the society that each succeeding year has witnessed no small degree of progress. On this occasion, apart from the increased number of exhibits in many sections, it was universally acknowledged that the representations, both of primary and secondary industries, ranked, generally speaking, on a still higher plane than those of last year, when it was thought the apex had been reached. His Excellency the Governor (Sir Dudley de Chair), at the official opening, referred to the noticeable improvements observed during the four successive years of his visits.

Widespread interest was manifested in the array of machinery and labour-saving devices conveniently concentrated in a section of the ground easily accessible to the visitor. And if, in point of fact, the actual number of exhibitors whose products come within the purview of this journal were fewer than formerly, it must be admitted that the standard of the exhibits was distinctly higher. Looking back, it is easy to recall when "Made in Australia" was borne upon a comparatively few manufactures and those, too, of lighter and less intricate construction. To-day, however, the symbol applies to a considerably larger proportion, and that quite independent of size and of the scientific research and inventive genius necessary for their production.

It was interesting to observe how manufacturers of agricultural machinery vied with each other in demonstrating the latest improvements to machines and implements to meet the varied requirements of the man on the land, with consideration to the diversified conditions under which he works. It was no less interesting to notice how the ever-widening spheres of engineering, mechanical and electrical skill are being directly and indirectly linked up with agriculture and its kindred pursuits. Huge caterpillar tractors, motor engines, cars, and motor trucks, electric lighting and electrically driven machinery and apparatus, and even radio, are to-day more or less necessary adjuncts to the development of our great farming industry, while the aeroplane is likely to be included in the list at no very distant date. Nor can we pass the wonderful development in road-making machinery and plant, especially realising that the greater proportion of this is now produced in Australian workshops. The relative importance of this section to our pastoral and farming industries, having regard to its linking up with speedier and more economical means of transit, cannot well be overestimated.

William Adams & Co. Ltd., of 175 Clarence-street, Sydney, presented an entirely new display, mainly consisting of road-making machinery. Prominence was given to a caterpillar model tractor fitted with the Killefer bag filler for use of back filling trenches, levelling dumps, and other purposes. This is constructed at their Alexandria works under licence to Killefer Works, U.S.A. It is unnecessary for the driver to leave his seat or to release his tractor controls when it is desired to reverse the position of the blade from one side to the other. The mere turning of the head of the tractor in one direction will swing the blade to the opposite side. The blade with its framework is so mounted that the usual side draught is properly offset, allowing the tractor to go forward without tendency to tail. Another notable point is that the tractor can be run "hands free" with a full load against the blade. Dismounting of the tractor for use in other purposes is effected by simply drawing a pin in each rear corner of the frame, which releases the levers from their pivots, leaving the tractor ready to back out. Provision is made for independent adjustment of cut on the opposite ends of the blade, while a walking beam allows the blade to work upon hard pavement, enabling such surfaces to be scraped without gouging when intersections or other changes in contour are encountered.

Another noteworthy machine on this stand was a Barber-Greene model 42 bucket loader, which has a capacity of 1½ cubic yards per minute in working free flowing material. This is specially designed for use on scarified road material, stock piles, and sand dumps, and is fitted with Adams adjustable leaning wheel grader enabling it to meet varied conditions in irregular country. The power here is derived from a dependable Buda 28 h.p. engine, apart from which the whole machine is locally made under licence to Barber-Greene, U.S.A.

A Spearwell "Big 8" motor grader with a two-ton caterpillar tractor, was also shown. This embodies a number of improvements over previous models. It is stronger and has a more rigid frame, longer wheel base, and the gears, which are enclosed, run in oil. An improved patented steering device has also been added, and the blade lift under wheels are now set-in. Still further it has an improved spring cushioned tractor connection and front bolster, an offset starting crank, while the blade circle is so reinforced as to make it practically unbreakable.

Hunnings patent utility road and tank plough is yet another machine now made at the works of the exhibiting firm. This has been designed to obviate

the necessity for using several different types of tools for separate work and class of material to be ploughed. Hard clay-pan can be efficiently turned up, and old gravel and hard metal roads easily broken with this plough. It is specially useful also in the construction of drains and small channels, and with extension mouldboards, is capable of making and cleaning large drains and channels. The draught is considerably lighter than in most other ploughs, and it can be set to cut any depth from 1 to 10 in.

The Ajax Mfg. Co., of Kyle-street, Arncliffe, Sydney, exhibited a simple but effective fitting applicable both to iron and wooden bedsteads. A device called the "Ajax Bed Angle" consists of a deep wrought iron socket, two of each being attached to the bed posts, while to the bed rails is a square fitment screwed to each end, which is inserted or dropped into the sockets on the bedposts. While facilitating the setting up and taking down of the bedstead, the device ensures greater rigidity.

Aladdin Industries Ltd., of 49-53 Shepherd-street, Sydney, had a large array of their lamps which, lit up at night, shed a most brilliant light, at once arresting attention, and drawing large crowds to their stand.

Here was displayed a veritable host of "Aladdin" lamps of various styles and sizes, the latest introduction being a 60 c.p. lamp, which distributes a fine soft light over a large area. This lamp is expressly made for use in hospitals, halls, reading-rooms and residences where a clear, soft light is preferred, or where electric light is not available. Called for in the country hitherto, a demand is now being experienced for these lamps from the city and larger towns even in competition with electricity.

The difference between ordinary kerosene lamps and those under review is that in the former, air is used to fan the flame, while the "Aladdin" method is to pass the air through the flame whereby 94 per cent. of oxygen is absorbed, thus burning only 6 per cent. of kerosene. An important feature is that no pumping or pressure is required, the gas being automatically formed immediately the gallery, fountain and chimney pot are put on. The metal base of the mantle holder, which bears the trade name "Kone Kap," wraps the flame around the generator, the tall chimney pulls the air through the flame, taking up the oxygen from the air, and thus a pure gas is formed incandescing the mantle to a white glow. The "Alad-

din" is fitted with a patent telescopic-tube wick requiring no constant adjustment, and the reservoir remains cool at all times. The patent wick, being chemically hardened and bound, ensures a very slow feed of oil to the burning point. The maximum candle power obtainable is 73, but the lamp is normally operated at 60 c.p. Some beautiful models, suitable for fashionable homes, were shown, with a large variety of coloured shades.

Another noteworthy exhibit was the "Aladdin" thermalware jar, an adaptation on a large scale of the well-known thermal flask, holding up to a gallon of food or liquids, kept hot or cold as desired. The container is made of vitrified earthenware,

encased in a heavy layer of high efficiency insulation, with ribbed outer steel jacket. The high thermal efficiency of the jar is mainly due to a patented insulating seal, which permits the combination of a non-metallic container with the metal outer jacket. All jars are provided with a proper carrying handle, and are much more durable than the standard flasks. There is no vacuum, and therefore no strain from air pumped out of the casing.

The "Aladdin" kerosene radiator was another feature of the exhibit, a device that is economical, since it will burn for 96 hours on one gallon of kerosene, and is smokeless, noiseless and odourless. This radiator can be attached to any standard table lamp sold by the firm, the lamp being lit and extinguished in the same manner as for lighting purposes. Heat sufficient for an average-sized room is obtained from a special asbestos heat mantle, and is directed by a burnished copper reflector.

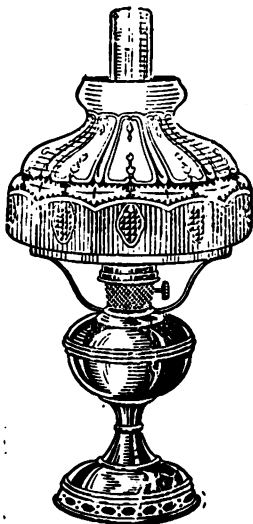
Armstrong-Holland Ltd., of 4 Bridge-street, Sydney, who specialise in road-making plant, drew the attention of visitors to their one-man tractor wheel scoop, constructed entirely at their own works, using a Ford tractor. Made throughout of cast steel, the scoop is easily controlled from the tractor, and can be so manipulated as to deposit its contents in one heap, or scatter them, as may be required. The tractor is fitted with Australian-made detachable creepers, and was shown to be able to turn in its own length. Where particularly adverse conditions are met with, special tracks can be supplied which are easily adjustable by bolts and nuts, and which obviate the possibility of slipping in the worst conditions of soil.

The Austral Engineering Supply Co. Ltd., of 490 Kent-street, Sydney, made a large display of standard types of Wadkin & Bolinder wood-working machinery, some of which were shown in operation, including a new type of cross-cut saw for timber merchants and builders. This tool, made for both cutting and trenching, is noteworthy for requiring no overhead structure, besides having several additional labour-saving features. As the saw operates in a straight line, it can be used for grooving or trenching, and the carriage may be turned round to any desired angle up to 45 degrees, while the spindle can be canted from horizontal to a vertical position and safely locked at any intermediate angle. For convenience in using smaller saws, as well as for trenching and grooving heads, the saw and slide frame are provided with a raising and lowering motion. The machine is fitted with an electric motor, directly mounted, and consequently no belting is required. Simplicity characterises the entire operations of the machine. The saw carriage slide is mounted on ball bearings so that very little exertion is required in working it.

The Best Universal Lock Co., of Wingello House, Angel-place, Sydney, interested spectators with their one key-locking systems, the most notable feature of which is the interchangeable lock core, intended to be used in every type of lock. The core is removable from the rest of the lock with a special private control key. Thus removed, the combination in the core may be changed to match a different key, or another core, having a different combination, may be locked into the housing. Either method gives the effect of a new lock without further expense, a particularly desirable feature in the event of keys being lost or stolen.

The removable core also makes it possible for a person to set off all his locks to operate by one key, and at the same time to adjust any particular locks to respond to different keys as well, thereby accommodating others who may have the right of access to any number of the same locks, so that each of these individuals in turn need carry but one key.

The locks are easily installed, and can be placed in doors already equipped with locks or latches.



The Broken Hill Proprietary Co. Ltd. made a comprehensive display of iron and steel products from the raw materials to the finished article. The steel sections shown ranged from the smallest rounds, squares, and other shapes to the largest beams, channels, and rails rolled by the company at Newcastle. By-products of the iron and steel industry were also exhibited, together with the manufactures of a large number of subsidiary industries. Of the former, sulphate of ammonia, tar, and blast furnace slag, used largely in road making, and benzol, a now favoured motor spirit, were attractively placed.

Subsidiary industries covers wire netting, barbed and plain wire, clothes lines, and fencing standards from Rylands Bros. (Aust.) Ltd., galvanised and black sheets, corrugated and plain, from John Lysaght (Aust.) Ltd., and a railway tyre in various stages of manufacture from Vickers-Commonwealth Steel Products Co. Ltd.

A liberal amount of space was devoted to the manufactures of firms who use either iron or steel in the production of their particular articles of trade, namely, shovels, chains of various types, gas and fuel stoves, bedsteads, chairs, iron piano frames, motor and oil engines, motor gears, pistons and centrifugally cast piston rings, tools, grey and malleable iron castings, and rough forged and machined locomotive axles.

A section was also devoted to the Australian Commonwealth Engineering Standards Association, where a complete set of standard specifications, together with examples of materials conforming to them were comprehensively laid out.

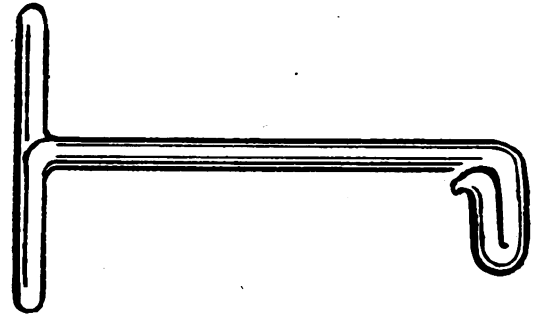
Buzacott & Co. Ltd., 111 Market-street, Sydney, occupied a large stand at the corner of Machinery-avenue. Many new exhibits of interest to the pastoralist, orchardist, dairy farmer, wheatgrower, and market gardener, designed for efficiency at low cost, were seen. A striking feature was the display of fire-fighting equipment, varying from hand pumps to powerful machine-driven apparatus, compactly assembled on a lorry. Among the working exhibits were the "New Record" drag saw, the Buzacott pumper, several kinds of pumping plant (all Australian-made), also Petter oil engines, the new Buzacott milking machine, irrigation plants, and a full range of Buzacott engines.

The Clyde Engineering Co. Ltd., of Granville, best known for their engineering activities in the production of locomotives and other heavy machinery, on this occasion made a feature of storage batteries, the manufacture of which now represents an important section of their works. The exhibit comprised car batteries for all makes and models of cars, while two, four and six volt batteries for radio work were conspicuous, together with train-lighting batteries of similar construction to those used on the railways, and others for home lighting, of which examples of plants installed in country homes were comprehensively shown. A special battery sales department has been established by the company in Goulburn-street, Sydney.

The Commonwealth Wool & Produce Co. Ltd., of 3 Bent-street, Sydney, had a large assortment of devices for station and farm use. Among the lines not hitherto seen here were the "Crump" patent fertiliser and lime spreader, a particularly light draught machine embodying, we are informed, several recent improvements. Chief among these is an endless chain system of feed providing that either large or small quantities of dressing, gypsum or lime can be distributed. Up to two tons per acre can be handled without any alterations to the machine other than increasing the speed of the chain. In operation the chain creeps along just above the cast bottom of the hopper, working over oblong outlet holes cut diagonally in the bottom section, thus ensuring better dis-

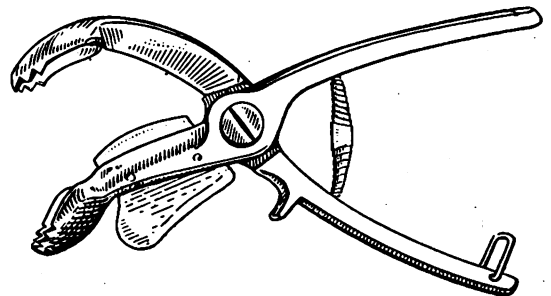
tributing results, and a more regular feed, while eliminating any possibility of choking.

The "Pointer" wire strainer, a new, simple and inexpensive device, consists merely of one piece drawn steel, hooked at one end to engage the wire, with the other end crossed to form an I handle, affording good leverage and easy turning with both hands. This strainer is applicable to various uses, including binding split posts, binding bales of skins or fodder, twitching broken motor springs, and mending wire fences.



The "Swagman" is the apt name given to a combined camp sheet and swag cover made from waterproof cloth which is impervious to damp, used as a ground rug for camping. A pocket at one end provides for stowing cloths.

Another exhibit was the "All-in-One" castrator and lamb tailer, a very simple and effective combina-



tion instrument overcoming extraction with teeth or pliers, also no searing is required, since the pressure of the blade in the slot in cutting the tail, closes the veins and prevents over-bleeding.

The Cyclone Gate and Fence Co. Pty. Ltd., of Commerce House, Ash-street, Sydney, made an interesting display of gates and fences. Whereas they hitherto showed only one style of fence, on this occasion they had three demonstrating an improved locking principle which, while being more secure than formerly, also has a better stiffening of the stays, and greater resisting power. A new exhibit was bronzed and galvanised mosquito and fly-proof wire webbing. Although they have been making the latter for some time, the finer mesh for mosquitoes represents a new development.

Dalgaty & Co. Ltd., of Miller's Point, Sydney, made a special feature of the "Electron" plant, which is a novel and complete electric generating outfit, suitable for country homes or hotels. Differing from any other outfit of this type, the whole of the machinery, including petrol engine, 32-volt dynamo, and all control apparatus is enclosed in a steel cabinet which gives it full protection, and makes it dirt and dust proof. The engine is water cooled, stated to be a very necessary and important feature in this climate, and it has a radiator and fan like a motor car, for cooling the water. Pressing a button sets

it to work, and it stops automatically immediately the battery is fully charged. This battery consists of 16 cells, of Clyde manufacture, and has a big storage capacity. The plates are fully visible through glass jars, fitted with the latest pattern glass tops.

On the same stand was an interesting working exhibit of the "Gane" milking machine, the vacuum pump of which was driven by a "Triumph" petrol engine. A "Wolseley" British-made cream separator and various other types of pumps and engines including "Triumph," "Tangye," and "Wolseley" portable type oil and petrol engines, all of which were shown in motion. Cliff & Bunting were represented by exhibits of chaffcutters, saw benches, and feed grinding mills, together with a fine big hay-press and engine combined.

Special attention was called to the new Shave hillside disc plough, which ploughs any grade hillside and holds the soil, and is equally suitable for work on level country. Another appliance of special interest was the May patent broadcast fertiliser spreader, an ingenious attachment for fixing to dray or horse-drawn vehicle, or to a motor lorry for distributing fertilisers and manures of every description. It has a working capacity of covering upwards of 50 to 100 acres per day.

Dangar, Gedye & Co. Ltd., 10-14 Young-street, Sydney, besides an extensive display of machinery and implements of various well-known makes, devoted their pavilion to the demonstration of the all-British Lister light, which, although seen before, was made much more interesting and comprehensive on this occasion by the method of display. These electrical light plants were shown both belt driven and direct coupled. A 32-volt set used in combination with a 16-coil storage battery, supplied the lighting for the whole of the stand, equal to 3,000 candle power. Electric fans, irons and vacuum cleaners were demonstrated with the Lister light current, while contained in a glass case was an instructive exhibit in the form of a sectional 5 b.h.p. Lister petrol engine in operation, wherein spark plug, valves, cam shaft, oil pump, etc., were all seen at work. A special building was erected to house the Kelvinator electric refrigerators, of which a wide range of models suitable for private homes, hotels, restaurants and other establishments were all shown in working order.

The exhibit of John Danks & Son Pty. Ltd., 324 Pitt-street, Sydney, was divided into two sections—their own manufactured goods and the various lines which they distribute on behalf of others. Prominent in the former section were practical examples of self-lubricating "Billabong" windmills, fitted with double gearing to withstand unusual strain and minimise friction. The gear box requires to be filled with oil only once every six months and the motion of the gear itself distributes the oil. When a dangerous velocity is reached the wind forces the tail and wheel out of the wind and pumping ceases automatically. The pumps shown included centrifugal pumps capable of raising up to 80,000 gallons an hour, driven by oil engines or electric motors; double-acting piston pumps, which are of service when a large "head" is in question; low-down hand force pumps, with a capacity of 1680 gallons an hour; butchers' brine pumps, bush showers, draw plunger pumps, bore cylinders and mill pumps. Included also were sheep and cattle troughing, made in six feet lengths, which interlock and rest on angular iron frames and supports. There were also the latest examples of "Daspyl" plumbers and engineers' brassware, and a small peal of six bells. Steel furniture and antiseptic fittings for hospital purposes included operation tables, examination chairs, sterilising plants and other accessories.

In the second section were seen the "Ideal" hot water boilers and radiators, which are claimed to be

among the most economical plants for a continuous hot water supply or for heating buildings. "Certainteed" roofing, McClary's electric cookers, electric fittings, sanitary ware, grates and tiles, tools, paints, artisans and builders' hardware, kitchenware and some fine examples of enamelled baths of Australian and American make, together with massive English baths in Staffordshire porcelain, sinks, washing tubs, coppers and bath heaters, were all on view.

Geo. E. Fortescue & Sons Ltd., of Arncliffe, Sydney, devoted a considerable portion of their large stand to practical demonstration of converting horse-driven harvesting machines of all types into power-driven, by merely coupling up their take-off and transmission tubes. This is an invention of the firm, and although not new, has now reached a stage of perfection appreciably surpassing in simplicity of application and efficiency its introduction in 1925. Coupled to some half-dozen or more different makes of well-known tractors and harvesting machines, whereof its application to all others was shown to be readily practicable, and advantages demonstrated by this take-off were: that it saves nearly 40 per cent of kerosene as compared with pulling the header in the old way; that water consumption is correspondingly reduced; and that very considerable time is saved in harvesting crops. The drive is flexible, adjustable and even running whereby breakages in the transmission are virtually eliminated.

Another exhibit of these manufacturers was a new spudless wheel tractor, which, it is claimed, grips or holds fully 100 per cent. more than tractors now in general use. Itself a tractor wheel, it is fitted with semi-walking treads with a polygon periphery enabling the motor to be driven through mud and slush, and in its progress to practically clean itself.

The Gillent Advertising Co., of 287 Bourke-street, Sydney, made a feature of the "Bright-Lite" advertising signs for use outside or inside shops and perhaps more especially on commercial vehicles such as delivery vans and lorries. For indoor use the sign, announcing a speciality or such like, is attractively housed in light material, and for vehicles the frames are welded into one piece so as to withstand vibration. The signs and others of similar make have come largely into use of late, their most attractive feature from the advertising point of view being that they very readily catch the eye of the passing public. They may also be illuminated by artificial light to suit any particular requirement by day or night.

Hadfields (Australia) Ltd. showed to an appreciable extent what their Alexandria works are capable of producing. They are manufacturers of steel castings in carbon and alloy steels, including their well-known "Era" manganese steel. Heavy steel forgings represent another feature of the firm's output, examples being shown weighing only a few pounds up to large steel shafts of 4½ tons. Their machine shop is capable of handling work of all descriptions, including the cutting of large and small gear wheels. Besides these there were examples of finished machines made at their works, such as rock crushers of disc, roll and jaw types in several sizes. A special type of self-contained ball mill for use where materials are to be finely ground, was likewise included, while the general engineering facilities at the firm's command were represented by a double cylinder air compressor.

The Hocking indestructible electric water heater, invented and made by Mr. W. H. Hocking, with head office at 14 Martin-place, Sydney, was demonstrated in the Hordern Pavilion. The outstanding feature of this is that water at boiling point is obtained almost instantaneously. We are told that hitherto

scientific experiments in this connection have been more or less confined to tubes or devices of wound elements of nichrome wire, but in the heater under review there are no such wires, but a series of cylinders insulated by porcelain discs which keep them firmly spaced. These cylinders are electrified by alternating current, but as they do not generate heat they remain cold until the water is turned on, which fills the spaces between the cylinders and so completes the circuit when the water boils instantaneously. When the water is turned off the heater drains itself by means of a small hole in the bottom of the container, thus opening the circuit and automatically cutting off the electricity between the cylinders. The heaters are made in white porcelain and are so compact and simple that installation is reduced to a minimum. No switches are required, but, as previously stated, it is only necessary to turn on the tap attached to the heater. Although designed specifically for bath heaters the same principle is applicable to kitchens, hospitals and elsewhere where boiling water is required at short notice.

Arthur Leplastrier & Co. Pty. Ltd., of Sirius House, Macquarie-place, Sydney, showed an extensive range of contracting and building construction machinery manufactured by them. Road construction machinery was a special feature of the display, and what is claimed to be the latest development in this line was represented by the "Leplast" one-man power grader which has an eight feet blade and mechanically controlled independent ten-tyne scarifier. Steel throughout, this machine can be supplied with either Fordson, Clektrac, Holt or McCormick-Deering units. They had also a large variety of horse or tractor drawn graders, earth scoops, road ploughs, and culvert moulds, and a number of concrete mixers of various capacities. Hoisting equipment in several sizes, concrete carts, hoist buckets, power hoppers, one-piece seamless concrete barrows and other subsidiary gear completed a most interesting range of their own manufacture. A range of "National" crude oil and suction gas engines applicable to industrial purposes and electric power generation both in horizontal and vertical types, were also on view. Robey steam rollers, traction engines and stone crushing plants were likewise given prominence on this stand.

H. V. McKay Pty. Ltd., of Sunshine (Vic.), and Sydney, attracted a good deal of interest by their demonstration of an improved auto header harvester. The engine of this machine is a 4-cylinder Fordson and is built in so that it becomes an integral part. The driving mechanism, being separate from the travelling wheels, allows of winnowing and threshing when the machine is stationary. Differing from other harvesters where the comb is placed on the side, in this machine it is carried right across the front to a width of twelve feet, and is easily raised and lowered by a lever to take either tall or short crops. Moreover, the comb remains parallel at all heights. Beneath the comb is a reciprocating knife which cuts off the straw a few inches below the head, and as this is effected, the heads and straw are caught up by steel spiral conveyors and delivered to an elevator. Two men only are required to operate the machine, one at the driving wheel and the other on a platform at the rear to attend to the bagging. Twelve bags a minute is the average rate of filling, and the machine, it is said, will harvest up to 45 acres per day.

Mallesys Ltd., of Mountain-street, Sydney, had two new lines in their representative display of sanitary, bathroom, kitchen and household hardware accessories. One of these was a series of enamelled gas coppers of 10, 12, and 14 gallon capacities, furnished with or without draw-off nickel taps. Of improved utility, these coppers are heavily tinned inside so

that a bright appearance can always be maintained by merely wiping out after use. The other line, angle wash basins, has been taken up to meet the demand of small bathrooms and lavatories. Made of 18-gauge Armco iron, they are splendidly enamelled in porcelain finish. Another innovation is a one-piece sink and draining board combined, of similar construction to the basins. These are well made and have 4 in. skirtings at front and back, which allow for easy fitting besides giving a good finished appearance.

Noyes Bros. (Sydney) Ltd., of 115 Clarence-street, Sydney, made an attractive display of bronze hand rails and bronze columns manufactured from extruded sections and copper sheets supplied by the Austral Bronze Co. Ltd. The hand rail section was similar to that installed at the St. James' Underground Railway Station, Sydney, by the company. There were also extruded sections and rolled copper bars, together with hot and cold rolled copper sheets, manganese bronze, and naval brass rods required for propeller shafts and valve spindles in connection with Water Board work.

Mr. R. Nuttall, of Jones-lane, Waterloo, Sydney, called attention to his auto self stacker, made expressly for loading goods on to lorries or elsewhere. It takes the form of a heavy truck which can be lowered to a depth of a few inches from the ground and raised to a height of seven feet or more if desired. The mechanism consists chiefly of hydraulic rams worked in the same manner as a goods lift but with lever control. It was shown that with this one man could lift a ton with perfect ease, and when conveyed to the required position the load can be readily dispatched by the aid of fixed rollers upon which it has previously been placed. Made on a similar principle is a smaller article after the style of a hand truck, for moving heavy goods about warehouse or factory. Onlookers were shown how a heavy iron safe could be lifted and wheeled by this to any desired position by one man. Contrasting with these was a child's portable swing, made of wrought iron, which, though light in weight, is particularly strong and can be readily set up in a few minutes, and moved from place to place without difficulty.

The Purcell Engineering Co. Ltd., of Park-road, Auburn, made an interesting departure from their regular exhibit of engineers' lathes, ball bearings, etc., by showing in operation an automatic loom for weaving both heavy cloth and light silk piece goods. This machine was made at their own works and is designed for the standardisation of all parts to suit Australian requirements and to enable the building up of almost any type and size of loom that requirements may demand. Furthermore, it permits of quantity production at a low running cost with the idea of enabling local manufacturers to compete more favourably with overseas factories.

Thomas Robinson & Son (Australia) Ltd., of 75-91 Harbour-street, Sydney, included on their stand a number of new type of woodworking machines from the parent works at Rochdale, England. Foremost was a six-header type RW planing and moulding machine constructed to take timber up to 15 by 4 in. in any length, and for either hard or soft timbers. In designing this machine special consideration has been given to the matter of general handiness to the operator both in "setting up" and "starting." The frame is so arranged that no portion of the mechanism projects below the floor line. The cutter spindles are mounted in heavy ball bearings and accurately balanced at their working speeds, while the cutterblocks are all square section, lipped and finished with a grip on all four sides and slotted for $\frac{1}{2}$ in. dia. tee-headed bolts. The minimum or

normal cutting circle is 6 in. dia. Ample clearance is given for projections above the normal cutting circle, and it is provided with a straight jointing or truing device, interchangeable between the top and bottom heads. The bottom cutter head is so arranged that it can be easily drawn out of the machine for sharpening and setting, and is provided with patented rise, fall and levelling adjustments, held in position by a quick-acting locking arrangement. It works on a cam shaft action governed by a lever, and the table has vertical adjustments to vary the depth of cut and may be lifted for inspection of the cutters. To suit different projections of cutters the gap over the block can be adjusted. Control from a square thread screw at the front of the machine allows the top cutter head to be raised and lowered as desired, also if necessary this head can be arranged to cant. The feed gear consists of four large rollers, of which the first and bottom are fluted, and all are driven by totally enclosed machine cut spur gearing and cone pulleys, the rates of speed being 15, 24, 40, and 60 ft. per minute, with provision for a speedier feed if desired.

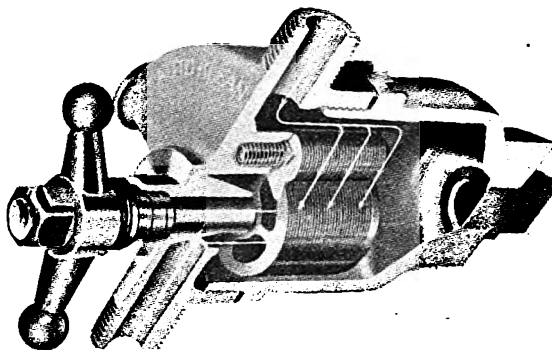
Another new exhibit was a four-sided panel planer and thicknesser with 24 in. by 6 in. all feed chain driven rollers, to which the infeed table is adjustable to any required height, there being two feeding-in and two tailing-out rollers. The former infeed is driven by spur and roller chain gearing enclosed in sheet steel guards, while the latter is operated by double belts; four rates of speed, namely, 14, 22, 37, and 64 ft. per min., can be obtained by means of cone pulleys, but, when desired, a 9-speed gear box can be supplied enabling a feed rate of from 10 to 65 ft. per min. With this machine a counter shaft with ball bearings, fast and loose pulleys and belt shifting gear are included.

Another interesting exhibit was an improved grinding apparatus for chain cutters and hollow chisels known as type RF. It is a combined apparatus for users of chain cutters and hollow chisel mortising machines, providing a ready and accurate means for sharpening chains up to 1½ in. wide and chisels up to 1 in. sq. With the use of this machine the life of tools is said to be considerably lengthened.

The Vacuum Oil Co. Pty. Ltd., of Sydney, had as the central feature of their exhibit a working model of a tractor with the moving parts exposed so as to show the lubricating system. The gear-box and differential were made clearly visible by lights from the outside, while small flashing globes indicated the firing order of the cylinders. "Voco" power kerosene, "Gargoyle," and "Mobiloil" were forcefully brought to the notice of farmers and others as being favoured fuel and lubricant for tractors. In the main window of the stand was a wide range of oils for agricultural needs, including separator oils, plough oils, cylinder oils, and axle greases. The "Perfection" stoves and heaters, ranging from the small one-burner for campers to the complete four-burner for home use, were also in evidence. The features of these stoves are their cleanliness, elimination of smoke and soot, even distribution of heat in the oven, economy in operation, and convenience in handling.

J. Wildridge & Sinclair Ltd., of 92 Pitt-street, Sydney, gave special prominence to refrigerating machinery and plant, together with accessories of in-

terest to butter factories and engineers. Seen for the first time were the British-made "Auto-Klean" strainers, standardised for lubricating oil systems, fuel oil systems and water systems. Each type can be supplied in various sizes to suit the requirements of the individual plant, and with it are included screwed and flanged connections. As the name implies, it is a self-cleaning apparatus, straining being accomplished by the oil or other fluid passing through a series of fine slots in the wall of a cylindrical formed-ridge. This constitutes a filtering medium formed by a pile of circular discs mounted on the central spindle and interleaved by thin spacing washers. An outstanding feature is that the strainer can be cleaned while the engine is running by merely turning a small handle at the top.



Another new exhibit was "Gaylac" reinforced shovels made by Gaythwait & Black, of Cessnock, N.S.W. The reinforcement is obtained by two corrugations in the blade extending beyond the base of the socket, thus strengthening the blade where the most strain is felt while also acting as a skid when used in wet material.

Sidney Williams & Co. Ltd., of Dulwich Hill, Sydney, interested country visitors in their "Comet" motor by-pass, an ingenious arrangement overcoming the necessity for paddock gates. Over a well about 18 in. deep the by-pass is placed, consisting of heavy tubular steel bars secured to steel beams forming a frame. A spacing of the tubular steel is so arranged as to provide easy running wheel tracks, at the same time providing for the impossibility of live stock and rabbits to pass over. Indeed, the shallow well automatically traps the rabbit, as, in endeavouring to pass, they fall through the bars. Made in two sizes suitable for ordinary cars and heavy trucks, the by-passes are delivered in sections in a manner to be easily assembled, the operation being completed in about twenty minutes. As will be gathered, the idea is to obviate the necessity for a number of gates with the uncertainty of their being regularly closed to prevent the admission of stock. We are informed that the device meets the requirements of the Local Government Act as affecting animal-proof gates.

Another exhibit from this firm was "Comet" standardised steel frames for erecting motor garages, wool sheds and even cottages. By assembling the steel members, which are rigidly bolted and braced by 1½ in. angle steel, the attachment of asbestos sheets or corrugated iron becomes a simple matter and ensures a rigid and durable building. Provision is made so that extensions when required can be carried out without injury to the original construction.

British Standard Glossary of Terms used in Illumination and Photometry

These terms and definitions have been approved by the National Illumination Committee of Great Britain and are in accordance with the decisions of the International Illumination Commission, as far as such decisions are applicable.

Luminous Flux.—The rate of passage of radiant energy evaluated by reference to the luminous sensation produced thereby. Symbol F.

Lumen.—A unit of luminous flux. It is equal to the flux emitted in unit solid angle by a uniform point source of one candle.

Luminous Intensity. Candle-Power.—The luminous flux per unit solid angle, emitted by a point source in a given direction. Symbol I.

Candle-Power.—Luminous intensity expressed in candles.

Mean Spherical Candle-Power (M.S.C.P.).—The average value of the candle-power of a luminous source in all directions. It is numerically equal to the total luminous flux in lumens divided by 4π .

Mean Zonal Candle-Power.—The average value of candle-power in a given zone, the angular limits of the zone being stated.

Mean Hemispherical Candle-Power, Upper or Lower.—The average value of the candle-power in the upper or lower hemisphere.

Mean Horizontal Candle-Power.—The average value of the candle-power of a luminous source in all directions in a plane through the centre of the source and perpendicular to its axis.

Candle. International Candle.—A unit of luminous intensity arrived at by common agreement between the National Physical Laboratory of Great Britain, the Laboratoire Central de l'Electricité of France, and the Bureau of Standards of the United States of America.

Bougie Decimale (B.D.).—The legal unit of luminous intensity in France, defined as one-twentieth of the luminous intensity, viewed normally, of a square cm. of molten platinum at the temperature of solidification. This unit has a luminous intensity of one candle.

Standard Sperm Candle. Parliamentary Candle.—An obsolete standard of luminous intensity consisting of a sperm candle weighing one-sixth of a pound, and burning 120 grains per hour.

Vernon Harcourt Pentane Lamp. Pentane Lamp.—A wickless lamp burning pentane vapour and used as a standard of luminous intensity. As usually constructed, its luminous intensity under specified conditions of atmospheric pressure and humidity is 10 candles.

Carcel Lamp.—A flame lamp burning colza oil. Its luminous intensity under specified conditions is 9.6 candles. It is now little used.

Hefner Lamp.—A flame lamp burning amyl-acetate. Its luminous intensity, under specified conditions of atmospheric pressure and humidity, is the official unit in Germany. This unit is known as the Hefner Candle and is taken as being equivalent to 0.9 (International) candles.

Reduction Factor. Ab. for Spherical Reduction Factor.—Of a luminous source. The ratio of the mean spherical to the mean horizontal candle-power of the source.

Illumination.—The luminous flux reaching a surface per unit area. Symbol E.

Lux. Metre-Candle.—A unit of illumination. It is the illumination produced on the surface of a sphere having a radius of one metre, by a uniform point source of one candle situated at its centre. It corresponds to a flux density of one lumen per square metre. One lux equals 0.093 foot-candles.

Foot-Candle. Candle Foot (deprecated).—A unit of illumination. It is the illumination produced on the surface of a sphere having a radius of one foot, by a uniform point source of one candle situated at its centre. It corresponds to a flux density of one lumen per square foot. One foot-candle equals 10.764 lux.

Phot.—A unit of illumination which is little used. It corresponds to a flux of one lumen per square centimetre. 1 phot equals 10,000 lux.

Brightness. Intrinsic Brilliancy. Surface Brightness.—Of a surface. The quotient of the luminous intensity in a given direction by the area of the surface projected on to a plane perpendicular to that direction. Symbol B.

Lambert, U.S.A.—A unit of brightness. The brightness of a perfectly diffusing surface emitting or reflecting one lumen per square centimetre. For most purposes the Millilambert (0.001 lambert) is of more convenient magnitude. One lambert equals $\frac{1}{10}$ (i.e., 0.318) candles per square centimetre.

Visibility Factor.—The ratio of the luminous flux, of given wave length, to the energy flux. Symbol K.

Efficiency.—Of a luminous source. The ratio of the total luminous flux emitted to the total power consumed. In the case of an electric lamp, it is expressed in lumens per watt. In the case of a source depending on combustion, it may be expressed in lumens per thermal unit of time.

Reflection Factor. Co-efficient of Reflection.—The ratio of the reflected luminous flux to the incident luminous flux. Symbol ρ . The factor may refer to the luminous flux specularly reflected, as from a polished surface (specular reflection factor), or to that diffusely reflected (diffuse reflection factor), or to the total luminous flux reflected (total reflection factor).

Absorption Factor. Co-efficient of Absorption.—The ratio of the luminous flux absorbed to the incident luminous flux. Symbol α .

Transmission Factor. Co-efficient of Transmission.—The ratio of the luminous flux transmitted to the incident luminous flux. Symbol τ .

Life Test. Of a luminous source.—A continuous running test for a stated period (usually 1000 hours) during which measurements of candle-power and consumption are made at intervals.

Photometer.—A piece of apparatus for the measurement of luminous intensity, luminous flux, illumination or brightness by comparison with a standard.

Photometer Head.—That portion of a photometer in which the photometric comparison is effected.

Photometric Integrator.—A piece of apparatus enabling the total luminous flux emitted by a light source to be determined at a single measurement by means of a photometer. The integrator usually takes the form of a spherical or cubical enclosure, the interior surface being white.

Integrating Photometer.—A piece of apparatus consisting of a photometric integrator combined with a photometer.

Primary Luminous Standard.—A recognised standard of luminous intensity reproducible from a specification.

Standard Lamp. **Secondary Standard Lamp.** — A lamp the luminous intensity of which is accurately known in terms of the National Standards.

Working Standard Lamp. **Standard Lamp.**—A lamp the luminous intensity of which is known with sufficient accuracy for industrial purposes.

Comparison Lamp.—A lamp of constant, but not necessarily known, luminous intensity with which a standard lamp and the lamp under test are successively compared by means of a photometer.

Test Surface. In Photometry.—A prepared surface which is illuminated by the luminous source or sources under test.

Comparison Surface. In Photometry.—A prepared surface which is illuminated by the standard or comparison lamp.

Reducing Screen. In Photometry.—A prepared surface serving to reflect a pre-determined fraction of the luminous flux reaching it.

Reducing Surface. In Photometry.—A prepared surface serving to reflect a pre-determined fraction of the luminous flux reaching it.

Window Efficiency Ratio. **Daylight Factor.**—The ratio of the illumination measured on a horizontal plane at a given point inside a building, to that outside the building, and due to an unobstructed hemisphere of sky, the two being measured simultaneously.

Sill Ratio.—The ratio of the illumination measured on a horizontal plane at a given point inside a building, to that on the window-sill outside, assuming an unobstructed quarter sphere of sky, the two being measured simultaneously.

Variation Factor.—Of illumination over a given plane. The ratio of the maximum illumination to the average illumination over that plane.

Variation Range.—Of illumination over a given plane. The ratio of the maximum illumination to the minimum illumination over that plane.

Direct Lighting.—A system of lighting in which the greater part of the luminous flux, after leaving the fitting, passes directly towards the area to be illuminated.

Indirect Lighting.—A system of lighting in which the greater part of the luminous flux reaches the area to be illuminated only after reflection from a ceiling or other object external to the fitting.

Semi-indirect Lighting.—A system of lighting which combines the features of direct and indirect lighting, the latter predominating.

Diffused Lighting.—A system of lighting in which the luminous flux, after passing through a diffusion medium, reaches the area to be illuminated, in part directly and in part indirectly.

Flood Lighting.—A system of lighting for the general illumination of a large object to a comparatively uniform brightness by means of a beam or beams projected from a distance.

Spot Lighting.—A system of lighting for the localised illumination of an object or part of an object to a brightness considerably greater than that of its surroundings, by means of a beam or beams of light projected from a distance.

Angle of Cut-Off.—Of a fitting, shade or reflector. The largest angle below the horizontal at which the light source is invisible when viewed from a point outside the reflector.

Daylight Lamp.—A lamp giving light of such a spectral distribution that objects illuminated by it appear to be of the same colour as when illuminated by daylight.

New Aluminium Alloy

(From an Official Report.)

Production of "Aldrey," a new aluminium alloy, developed for electric power lines, and said to have tensile strength that does not interfere with its electrical conductivity, has begun in Germany, and production licences have been granted for both Germany and Austria.

"Aldrey" is an alloy which has been developed especially for electric power lines, and it is said to be noteworthy for its tensile strength and at the same time for electrical conductivity. Tensile strength can easily be attained by suitable alloys, but conductivity is ordinarily considerably lessened at the same time, especially if pure metals are added.

In the case of aluminium, however, better mechanical results are possible by heat treatment than by alloying. Duralumin, the best-known of light alloys, is understood to be treated this way. Thus appreciable increase in tensile strength may be obtained by heat treatment instead of excessive alloying, with the additional advantage that electrical conductivity is relatively unimpaired. With several aluminium alloys the improvement of the mechanical qualities also improves the conductivity.

A few years ago the Leichtmetall Studien-und Verwertungs-Gesellschaft placed an alloy on the market under the name of "Aludur," which contained extremely little silicon and only 0.5 per cent. magnesia. The new compound does not seem to differ materially from the "Aludur" mixture, but the ameliorating process is considerably improved. "Aludur" is obtained by heat treating first and cold working afterward, whereas "Aldrey" is the result of the reverse process. The mechanical qualities are said to be considerably improved by this method.

The production of "Aldrey" is the result of a studied economic policy in Germany to divest the industries of the country of dependence upon primary foreign materials. Germany has substantial interests in Hungarian and Swiss bauxite deposits, and is working assiduously upon the problem of extracting aluminium from German clays and low-grade bauxites. The invention of a suitable aluminium alloy with high electrical conductivity would prove of great value.

Commonwealth Tariff Decisions

The following decisions of more or less interest to the hardware trade have been made during February. By way of explanation, it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (5/3/28, and so on) the date on or from which the new decision took or takes effect:—

Chain and Chains—		
27/178	The following references in Consolidated By-laws, viz.:	5/3/28
	Chain, metal driving, roller pattern, for use in the manufacture of Locomotives, under security (page 100).	
	Chain (metal driving) and attachments for use in the manufacture of Looms, under security (page 100).	
	Chain, metal driving (roller pattern), for use in the manufacture of Box Board Printing Machines, under security (page 101).	
	Chain, silent (metal driving), for use in the manufacture of Road Rollers (power driven), under security (page 102).	
	Metal driving chain (roller pattern) for use in the manufacture of Sawing Machines (portable), under security (page 102).	
	Chain, metal driving, (roller pattern), for use in the manufacture of Un-hairing and Scudding Machines, under security (page 102).	
	Chain, iron and steel, $\frac{1}{2}$ inch medium link coil, for use in the manufacture of Agricultural Machines and Appliances, under security (page 103).	
	And in By-law No. 71 are to be cancelled, but any Chain or Attachments which were in direct transit to Australia on March 5, 1928, and which, but for this decision, would be admissible under Tariff Item 404, may be admitted, under security, under that Tariff Item (By-law No. 864).	
	The references to Metal Driving Chain, etc., for use in the manufacture of Looms, of Portable Sawing Machines, of Box-board Printing Machines, and of Road Rollers (power-driven), in "Guide," page 54, and T.D.'s '23/784, as amended by T.D. '28/838, '26/164 and '26/496, are to be cancelled.	
Machinery, Machines, etc.—		
28/183	Engines, Petrol, Four-cylinder Internal Combustion, for use in the manufacture of Excavating Machines, under security. (By-law No. 857.)	404 4/2/28
Machinery, Machines, etc.—		
28/184	Mortising Machines, Hand-operated. (By-law No. 851, Wood-working.)	174 17/9/27
	Note.—T.D. '28/63 and By-law No. 753, are to be cancelled, as redundant. The reference in "Guide," page 213, to Mortising Machine, etc., as qualified by T.D. '24/547, is to be further qualified.	
Wire—		
28/190	Steel, Bead, .025 in. in diameter, and .028 in. in diameter, for use in the manufacture of Pneumatic Rubber Tyres, under security. (By-law No. 858.)	401 21/9/27
Wire—		
28/191	Steel, Half-Round, $\frac{1}{2}$ in., for use in the manufacture of Rubber Hose, under security. (By-law No. 859.)	404 23/7/27
Wire—		
28/192	Steel, Hardened and Tempered, No. 18 Gauge, $\frac{1}{16}$ in. wide, for use in the manufacture of Rubber Hose, under security. (By-law No. 860.)	404 17/8/27
Wire—		
28/193	Steel, No. 15 Gauge, for use in the manufacture of Pneumatic Rubber Tyres, under security. (By-law No. 861.)	401 1/2/27

Wire—		
28/194	Steel, viz.:— Flat, $\frac{1}{4}$ in. x $\frac{1}{8}$ in. Half-Oval, $\frac{3}{8}$ in. x $\frac{1}{4}$ in. for use in the manufacture of Rubber Hose, under security. (By-law No. 862.)	404 23/9/27
Wire—		
28/195	Steel, Tinned, No. 17 Gauge, for use in the manufacture of Pneumatic Rubber Tyres, under security. (By-law No. 863.)	401 10/5/27
Chisels—		
28/196	Carpenters' (By-law No. 867) Engineers' Cold Plumbers' Plugging	219 12/3/28 208a
	Note.—The reference to Chisels in Consolidated By-laws, page 35, and in By-law No. 28, and to Chisels, including Cross-cut, etc., in "Guide," page 60, as amended by T.D. '26/806, are to be cancelled.	
	The reference to Masons' Tools in Consolidated By-laws, page 40, and in By-law No. 28, is to be amended by deleting Hammer Head and Mallet Head Chisels from the list of exclusions thereunder and adding Chisels to the list mentioned.	
	Any Chisels, however, which were in direct transit to Australia on 12th March, 1928, and which, but for this decision, would be admissible under Tariff Item 219, may be admitted under that Tariff Item.	
Enamels—		
28/203	Fusible, prepared, for metals	281(l) 12/3/28
	Note.—The reference to Enamel White, etc., and Enamel Green Glass, etc., in "Guide," page 264, are to be cancelled.	
Guns and Rifles, etc.—		
28/204	Air Rifles, single-barrelled, bearing the British or other approved test mark.	189(b) 12/3/28
Hammers—		
28/205	Napping Spalling	208(a) 12/3/28
	Note.—The reference to Hammers, etc., in Consolidated By-laws, page 37, and in By-law No. 28, and T.D. '23/68, as amended by T.D. '26/811, are to be amended to exclude Napping Hammers and Spalling Hammers from the operation of Tariff Item 219, but any such Hammers as were in direct transit to Australia on 12th March, 1928, may be admitted under that Tariff Item. (By-law No. 868.)	
Nails—		
28/211	Foundry, Chilled, for use in connexion with the manufacture of steel castings. (By-law No. 881.)	415a 7/6/27 (2)
Paints, Colours, Varnishes, etc.—		
	Enamels, Fusible, prepared, for metals. See "Enamels"—T.D. '28/208.	
Picks—		
28/212	Bitch, and Pups therefor (Masons' Tools.)	208(a) 12/3/28
	Note. — The reference to Masons' Tools in Consolidated By-laws, page 40, in By-law No. 28, and in "Guide," page 376, and to Picks, e.g., navvies', miners', etc., in Consolidated By-laws, page 41, and in By-law No. 28, and T.D. '24/801, are to be amended to exclude Masons' Bitch Picks and Pups therefor from the operation of Tariff Item 219, but any such Picks or Pups as were in direct transit to Australia on 12th March, 1928, may be admitted under that Tariff Item. (By-law No. 869.)	
Pincers—		
28/213	Being Tools of Trade, excluding Farriers'. (By-law No. 870.)	219 12/3/28
	Farriers'	208(a)
	Note.—The reference to Pincers in consolidated By-laws, page 41, in By-law No. 28, and in "Guide," page 291, is to be cancelled, but any Farriers' Pincers which were in direct transit to Australia on 12th March, 1928, may be admitted under Tariff Item 219.	

28/214 Pitchers (Masons' Tools) 208(a) 12/3/28

Note.—The reference to Mason's Tools in Consolidated By-laws, page 40, in By-law No. 28, and in "Guide," page 376, is to be amended to exclude Pitchers, but any Masons' Pitchers which were in direct transit to Australia on 12th March, 1928, may be admitted under Tariff Item 219. (By-law No. 871.)

Punches—

28/216 The references to Punches, being Tools of Trade, etc., as qualified by T.D. '26/817 and Whitney Portable, etc., in "Guide," page 316, are to be cancelled. . . 12/3/28

The reference to Punches, etc., in Consolidated By-laws, page 42, and in By-law No. 28, is to be deleted and the following substituted therefor:—
"Punches, viz.:—
Eyelet (and dies for use therewith), including eyelet punches for office use,
Letter, steel,
Wad,"

but any punches which were in direct transit to Australia on 12th March, 1928, and which, but for this decision, would be admissible under Tariff Item 219 may be admitted under that Tariff Item. (By-law No. 872.)

Hammers—

28/221 Tack, Automatic, for driving tacks or staples which are automatically fed through the barrel of the hammer. 208(a) 19/3/28

Note.—T.D. '27/530 is to be cancelled.

Pipes and Tubes (Metal)—

28/223 The reference to Tubing, steel, rolled in various sections to take the glass of the windshield, not exceeding 1½ in. to ¾ in. for use in the manufacture of Motor Cars, in Consolidated By-laws, page 113, and in By-law No. 71, and T.D. '23/104 are to be cancelled, but any such Tubing as was in direct transit to Australia on 19th March, 1928, may be admitted under Tariff Item 404. (By-law No. 902.) . . 19/3/28

Plates—

28/224 Copper, viz.:— 404 24/12/26

Plain or tinned, unpolished, exceeding 4 ft. 3 in. in width or exceeding 360 lb. nett weight, rectangular, or of any shape which could not be cut from plates 4 ft. 3 in. or under in width or from plates 360 lb. or under nett weight, subject to the conditions that the Collector of Customs be first satisfied that the particular plates are essential for a definite purpose, and that security be given to and to the satisfaction of the Collector of Customs that the plates will be used in widths exceeding 4 ft. 3 in. or in weights exceeding 360 lb. nett or in any shape which cannot be cut from plates 4 ft. 3 in. or under in width or from plates 360 lb. or under nett weight.

Note.—T.D. '27/443 having reference to Copper Plates, plain or tinned, unpolished, imported in widths exceeding 4 ft., etc., for all purposes, and the relative reference thereto in By-law No. 287 are to be cancelled as on and from 19th March, 1928.

Any Copper Plates, however, which were in direct transit to Australia on 19th March, 1928, and which, but for this decision, would be admissible under Tariff Item 404 may be admitted, under security, under that Tariff Item.

(By-law No. 900.)

Sheet—

28/225 Copper, viz.:— 404 24/12/26

Plain or tinned, unpolished, exceeding 4 ft. 3 in. in width or exceeding 360 lb. nett weight, rectangular, or of any shape which could not be cut from sheets 4 ft. 3 in. or under in width or from sheets 360 lb. or under nett weight, subject to the conditions that the Collector of Customs be first satisfied that the particular sheets

are essential for a definite purpose, and that security be given to and to the satisfaction of the Collector of Customs that the sheets will be used in widths exceeding 4 ft. 3 in. or in weights exceeding 360 lb. nett or in any shape which cannot be cut from sheets 4 ft. 3 in. or under in width or from sheets 360 lb. or under nett weight.

Note.—T.D. '27/445 having reference to Copper Sheets, plain or tinned, unpolished, imported in widths exceeding 4 ft., etc., for all purposes, and the relative reference thereto in By-law No. 287 are to be cancelled as on and from 19th March, 1928.

The references to Copper Sheets, 3 lb. to 6 lb. per square foot, both weights inclusive, measuring 8 ft. x 5 ft., etc., for use in the manufacture of Copper Calorifiers and of Copper Cylinders, under security, in Consolidated By-laws, pages 86 and 88 respectively, and in By-law No. 71, and T.D. '26/709 are to be cancelled as on and from 19th March, 1928.

Any Copper Sheets, however, which were in direct transit to Australia on 19th March, 1928, and which, but for this decision, would be admissible under Tariff Item 404, may be admitted, under security, under that Tariff Item.
(By-law No. 900.)

Sheets—

28/226 Zinc, perforated, for use in the manufacture of Kitchen Dressers and of Kitchen Safes, under security. (By-law No. 901.) 404 16/12/27

28/245 Deferred Duties (Deferment Notice No. 30)—

The operation of the deferred duties under the undermentioned Tariff Items has been further postponed to the date shown respectively opposite each Item:—

Item 118 (C) (1). Plain Linoleums and Floor Coverings having a similar surface, not printed or inlaid (Proposed Customs Tariff 1927). . . 1/7/28

Item 136 (F). Iron and Steel—Hoop This further postponement does not apply to Iron and Steel—Hoop, one-eighth of an inch in thickness, of the following widths, viz.:—1 in., 1½ in., 1¾ in., 1⅞ in., 1⅞ in., 1⅞ in., 1⅞ in., 1⅞ in., 1⅞ in., 1⅞ in., 1⅞ in., and 2 in., for which see T.D. '23/748. . . 1/10/28

Item 136 (F) (2). Iron and Steel—Hoop n.e.i. (Proposed Customs Tariff 1927). . . 1/10/28

Item 147. Iron and Steel, viz.:—Plates and Sheets, plain tinned. . . 1/10/28

Item 152 (a). Iron and Steel Tubes or Pipes (except riveted, cast, close-jointed or cycle tubes or pipes) not more than 3 inches internal diameter; Iron and Steel Boiler Tubes. . . 1/10/28

Item 194 (d). Chain, n.e.i., not made up into serviceable articles. . . 1/7/28

This further postponement does not apply to Brass and Copper Chain (curb and trace pattern) made from wire of ½ mm. to 3 mm. in thickness, both sizes inclusive, for which see T.D. '26/664.

Item 197 (b). Cutlery, Spoons, and Forks, n.e.i., and Knife Sharpeners. . . 1/10/28

Item 197 (b). Cutlery, Spoons, and Forks, n.e.i., and Knife Sharpeners (Proposed Customs Tariff 1927). . . 1/10/28

Item 242 (b). Glass, viz.:—Sheet, Plain Clear 1/10/28

Item 397 (a). Cartridges, n.e.i. . . 1/10/28

This further postponement does not apply to Shotgun Cartridges, for which see T.D. '28/249.

Explosives—

28/249 Cartridges, Shotgun—On and after 1st April, 1928, the deferred duty rates under Tariff Item 397 (a), viz.:— 397 (a) 1/4/28

15% British Preferential Tariff, 25% Intermediate Tariff, 30% General Tariff, are to operate on Shotgun Cartridges, vide Deferment Notice No. 30.

Machinery, Machines, Etc.—

- 28/250 The references to Covering Machines, Topping Machines, and Wrapping Machines, appearing under the heading "Paper-finishing, paper-cutting, and paper-folding machines (not including extra knives)", in Consolidated By-laws, pages 20 and 21, and in By-law No. 25 are to be cancelled, but any such Covering, Topping, or Wrapping Machine as were in direct transit to Australia on 26th March, 1928, may be admitted under Tariff Item 174. (By-law No. 904.)

Note.—The following references in the "Guide" are to be cancelled, viz.:—

Coverer, for putting paper backs, etc. (page 193).

Covering Machine Tools, etc. (page 193).

Topping Machine Tools, etc. (page 229).

Wrapping Machine Tools, etc. (page 233).

The reference to Wrapping Machines, Can, etc., in "Guide," page 233, is to be amended by deleting therefrom the description "The Wrapping Machine exempted," etc.

Machinery, Machines, Etc.—

Covering (also known as Wrapping) Machines, automatic, for affixing paper coverings on to paper boxes—See "Wrapping Machines"—this group—T.D. '28/251.

Machinery, Machines, Etc.—

- 28/251 Wrapping (also known as Covering) Machines, automatic, for affixing paper coverings on to paper boxes. (By-law No. 903.) 174 26/3/28

Oils—

- 28/252—Asphaltic Flux (being a residual oil) for use in the manufacture of Road Dressing Preparations, under security. (By-law No. 906.) 404 1/2/27
- Note.—T.D. '26/779 is to be qualified accordingly.

Oils—

- 28/253 Tung Oil for use in the manufacture of Varnish, under security. (By-law No. 911.) 415a 1/3/28 (1)

Wire—

- 28/254 Iron and Steel, tinned, for use in the manufacture of Brooms, under security. (By-law No. 907.) 404 1/7/27

Machinery, Machines, Etc.—

- 28/268 Coilers (also known as Giraffes) for Wire Mattress Weaving Machines. Note.—The reference to Coilers, etc., in "Guide," page 191, is to be cancelled. 176(f) 2/4/28

Machinery, Machines, Etc.—

Giraffes (also known as Coilers) for Wire Mattress Weaving Machines. See "Coilers," this group—T.D. '28/268.

Machinery, Machines, Etc.—

- 28/269 Motors, Electric, repulsion, induction and split phase, not exceeding 1 h.p., for all purposes. (By-law No. 919.) 401 9/11/27
- Note.—The reference to Motors, electric, etc., for use in the manufacture of Lawn Mowers, in Consolidated By-laws, page 102, and in By-law No. 71, and T.D. '26/661 as amended by T.D. '26/777 are to be cancelled.

Machinery, Machines, Etc.—

- 28/270 Weaving Machines, Wire Mattress, Automatic. The decision thereon in T.D. '27/440 is to be interpreted as covering such machines of the full automatic type, but not applying to Wire Mattress Weaving Machines with automatic stop only.

Monel Metal—

- 28/271 And other similar alloys composed principally of copper and nickel, viz.:—Blocks, Cubes, Angles, Bars, Rods, and Tees, not polished, plated, decorated, or further manufactured, for all purposes. (By-law No. 920.) 404 11/10/27
- Note.—The reference to Monel Metal Blocks, etc., for all purposes, in Consolidated By-laws, page 76, and in By-law No. 71 is to be amended in accordance with the above, and T.D. '26/202 is to be cancelled.

Monel Metal—

- 28/272 And other similar alloys composed principally of copper and nickel, in ingot form, for all purposes. (By-law No. 920.) 404 11/10/27

Note.—The reference to Monel Metal Ingots, for all purposes, in Consolidated By-laws, page 76, and in By-law No. 71 is to be amended in accordance with the above, and T.D. '27/272 is to be cancelled.

Pipes and Tubes (Metal)—

- 28/273 Monel Metal and other similar alloys composed principally of copper and nickel (not plated, polished, decorated, or further manufactured), for all purposes. (By-law No. 920.) 404 11/10/27

Note.—The reference to Pipes and Tubes, Monel Metal, etc., for all purposes, in Consolidated By-laws, page 76, and in By-law No. 71, is to be amended in accordance with the above, and T.D. '27/46 is to be cancelled.

Plates—

- 28/274 T.D. '23/579 having reference to Plates, viz.:—Brass, Bronze, etc., for the manufacture of metalware and general purposes, and the relative reference thereto in Consolidated By-laws, page 76, and in By-law No. 71, are to be amended by adding after the words "monel metal" appearing therein the words "and other similar alloys composed principally of copper and nickel." (By-law No. 920.) 11/10/27

Sheets—

- 28/277 T.D. '23/582 having reference to Sheets, including Circles and Segments, viz.:—Brass, Bronze, etc., for the manufacture of metalware and general purposes, and the relative reference thereto in Consolidated By-laws, page 76, and in By-law No. 71 are to be amended by adding after the words "monel metal" appearing therein the words "and other similar alloys composed principally of copper and nickel." (By-law No. 920.) 11/10/27

Note.—T.D. '25/162 having reference to Sheets, Constantan, etc., for all purposes, and the relative reference thereto in Consolidated By-laws, page 76, and in By-law No. 71, are to be cancelled, as redundant.

The references to Silveroid, etc., "Guide," pages 239, 247, and 341 are to be cancelled.

Stampings—

- 28/278 Monel metal and other similar alloys composed principally of copper and nickel, in the rough, for all purposes. (By-law No. 920.) 404 11/10/27

Note.—The reference to Stampings, monel metal, etc., for all purposes, Consolidated By-laws, page 76, and in By-law No. 71 is to be amended in accordance with the above. The reference to Stampings, etc., in T.D. '27/44 is to be cancelled.

Strips—

- 28/280 T.D. '23/583 having reference to Strips, viz.:—Brass, Bronze, etc., for the manufacture of metalware and general purposes, and the relative reference thereto in Consolidated By-laws, page 76, and in By-law No. 71 are to be amended by adding after the words "monel metal" appearing therein the words "and other similar alloys composed principally of copper and nickel." (By-law No. 920.) 11/10/27

Wire—

- 28/281 Monel Metal and other similar alloys composed principally of copper and nickel, for all purposes. (By-law No. 920.) 404 11/10/27

Note.—The reference to Wire, monel metal, for all purposes, in Consolidated By-laws, page 76, and in By-law No. 71 is to be amended in accordance with the above. T.D. '27/63 is to be cancelled.

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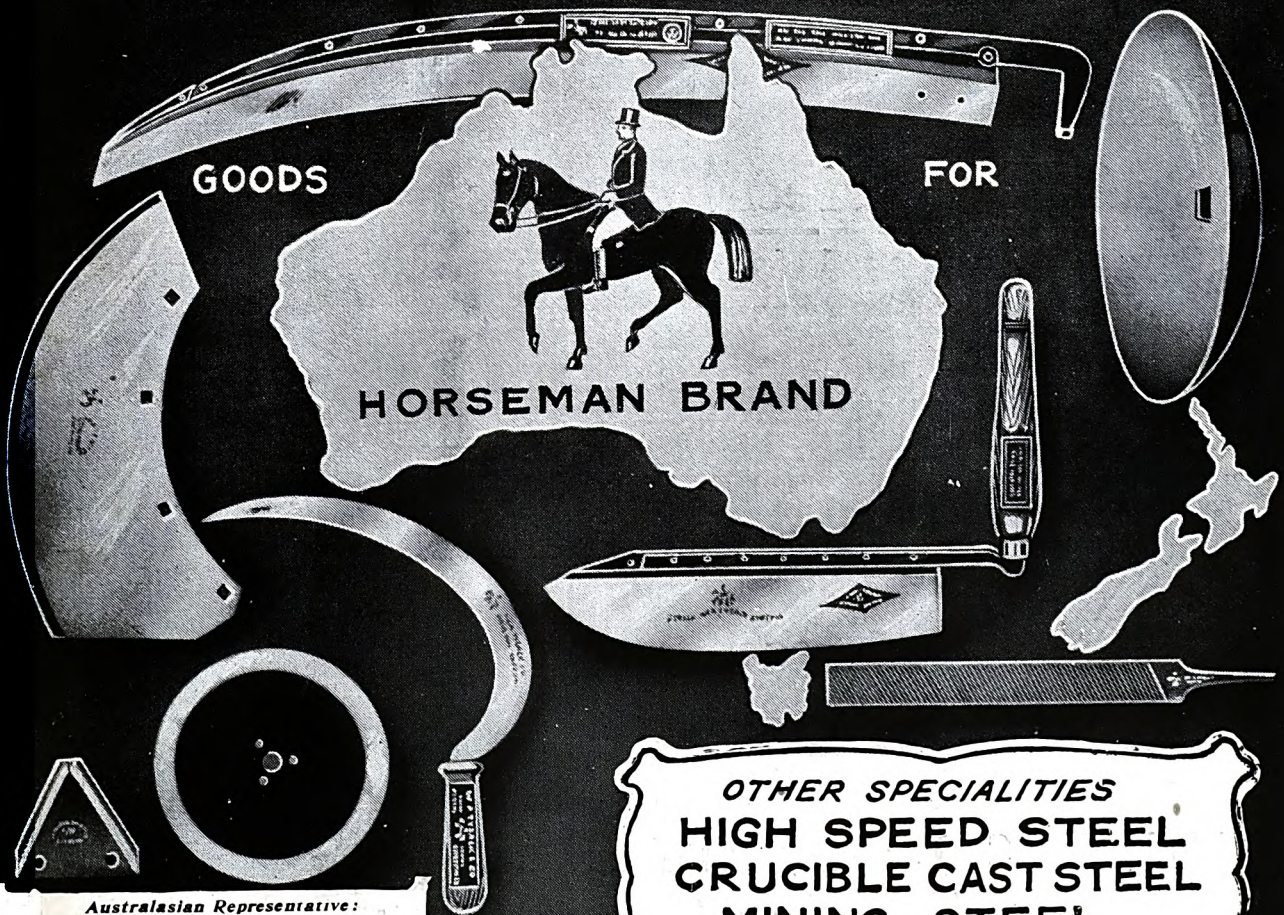
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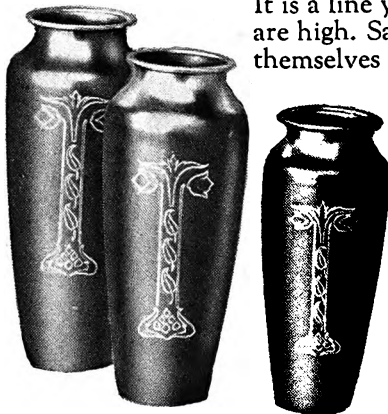
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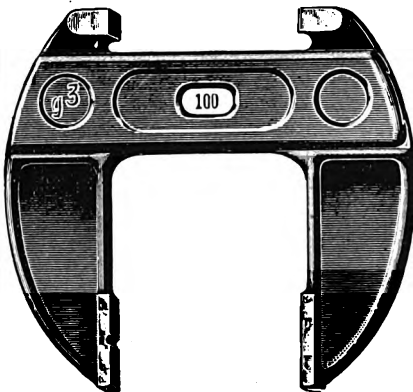
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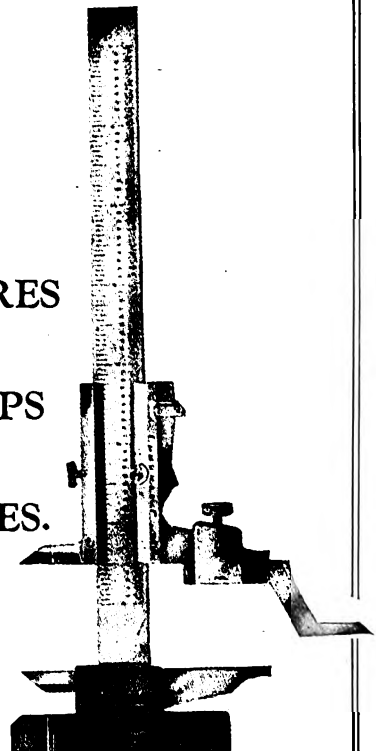
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ADELAIDE—38 Grenfell Street

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Subscription—10/- per annum.

For 30/- per Annum we will supply (in addition to above) The Ironmonger (London), weekly, and a copy of The Ironmonger Diary. All Post Free. Single copies 1/- each. Subscriptions payable in advance.

Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

Additions to Showrooms.

The K.F.B. Foundry Ltd., of 310 Pitt-street, Sydney, have taken the adjoining premises, until lately occupied by Stutchbury's Ltd., furniture warehousemen. After being remodelled, they will be used as additional showrooms, and the floor space will thus be doubled.

Voices of the Trade.

A New South Wales traveller (45/226), who knows our journal well and has recommended it to others, writes as follows, the names only being suppressed:

"Mr. A. B., buyer in the hardware section for C. & Co., of D—, is a very satisfied subscriber. He told me the other day that I did him a good turn when I brought under his notice 'Hardware and Machinery.' He reckons he has learnt more of the hardware trade in the last three months than he has during many years of being behind the counter. He makes a point of going through the journal carefully every month—he also writes you now and again for information. which he says is given him very promptly. He is a very appreciative subscriber."

Steel Works in Sweden.

The notes on "Swedish Industries" in a recent issue of "The Swedish-Australasian Trade Journal," dealt with the Forsbacka Steel Works (Forsbacka Jernverks Aktiebolag). Forsbacka is 125 miles from Stockholm, the capital of Sweden, and is well situated for the manufacture of iron and steel, ore of the purest and charcoal of the best being obtainable on the spot, while a waterfall connecting the Storsjon lake with the Gavlean river provides the works with hydro-electric power.

"To-day Forsbacka is rated as one of the most important works in Sweden for the manufacture of high-grade steel and steel products, and comprises the following departments, viz., blast furnace department with four furnaces, roasting furnace, etc.; steel works with steel furnaces for the manufacture of high-grade steel; Bessemer plant with two converters; Martin plant with three open hearth steel furnaces; rolling mill comprising ingot mill, medium merchant mill, universal mill, small merchant mill, tube-billet mill, and hollow drill steel mill; forging shops with a large number of steam and pneumatic power hammers, and forge presses; machine shop and iron foundry, mainly for the requirements of the works; laboratory fitted up with the latest appliances for carrying out all kinds of tensile strength tests, metallographic microscopic, micro-photographic, and metallurgical investigations, heat treatments and chemical analyses."

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Tung Oil From British Sources.

The National Federation of Paint, Colour and Varnish Manufacturers, says an official report, is watching with great interest the experiments now proceeding in the planting of tung oil (China wood oil) trees within the Empire.

A determined effort is being made by the Research Association of British, Paint, Colour and Varnish Manufacturers, in collaboration with the Imperial Institute authorities, to start such plantations in likely places, particularly in Africa, in the hope that in a few years some at least of the places chosen will be yielding oil on a commercial scale. The tree takes five years to come to fruition. The oil is a drying oil of unique properties, which may be said, for some purposes, to be indispensable to the varnish manufacturer. The present supply comes from China; it is very high in price, and is almost invariably adulterated.

Foreign Exchanges

Foreign rates of exchange in London for cable transfer on the centres and dates indicated, compare as follows:—

Par.	—	—	Apr. 23	Apr. 26	Apr. 30	May 3
4.886	New York	Dols to £	4.887 ³ / ₃₂	4.87 ¹ / ₂	4.88	4.87 ¹ / ₂
4.886	Montreal ..	Dols to £	4.88 ¹ / ₂	4.87 ¹ / ₂	4.88 ¹ / ₂	4.87 ¹ / ₂
25.225	Paris	Fros to £	124.02	124.02	125.02	124.02
35.000	Brussels ..	Bels to £	34.98	34.98	34.94	34.95
25.225	Rome	Lire to £	92.60	92.60	92.58	92.65
12.107	Amsterdam	Florin to £	12.11 ¹ / ₂	12.11	12.10 ¹ / ₂	12.10
12.107	Batavia ..	Gul to £	12.12	12.11 ¹ / ₂	12.11	12.10 ¹ / ₂
18.159	Stockholm ..	Kron to £	18.19	18.19	18.19	18.19
18.159	Oslo	Kron to £	18.26	18.26	18.23	18.23
18.159	Copenhagen	Kron to £	18.21	18.21	18.20	18.20
20.43	Berlin	Gmks to £	20.41	20.39	20.40	20.40
24	Calcutta ..	Pen to rup	18	18	18	18
24.58	Yokohama	Pen to yen	23 ¹ / ₂	23 ¹ / ₂	23 ¹ / ₂	23 ¹ / ₂
	Hongkong	Pen to dol	24 ¹ / ₂	24 ¹ / ₂	24 ¹ / ₂	24 ¹ / ₂

* Par depends on rise and fall in price of Silver.

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Editorial

State Trading

At the annual meeting of the Wellington (N.Z.) Chamber of Commerce, the president (Mr. C. M. Bowden) called attention to the growth of trading by departments of State and local bodies. When these official or common ventures proved unprofitable, as they often did, a double burden, he maintained, was flung on the taxpayers. The losses had to be met out of the general funds, and by invading the field of private enterprise legitimate trading profits were curtailed. While earning less because of this form of competition, some men had to pay more, and the scale of taxation was kept high for everybody, higher than it ought to be.

The strongest argument against such trading departments, however, was their preferential treatment. As against private interests they were accorded special exemptions and privileges. This was quite unfair, and it was now recognised the world over that, where trading by governments or local authorities was permitted, such departments should be subject to the same conditions as were imposed upon those businesses with which they competed. In all equity the restrictions and liabilities borne by the one should be borne by the other. Private enterprise objected, and rightly so, to the prejudiced position in which it found itself. Discriminative treatment was unjust, and ought to be abandoned.

This critic puts the case well. A true or full statement of departmental trading costs is practically impossible because of the exemptions and omissions to which he refers. Private firms cannot escape any obligation if they would. They must pay what is fairly demanded of them in the way of rates and taxes, and must include rent and every other expense of doing business before striking a balance. No wrapping up or hiding away even from their own eyes. That way lie financial stringency and the insolvency court. But with great State departments it is otherwise. Why should their trading adjuncts trouble about rents and taxes? And even if, without including anything for these, the enterprise shows a loss, have they not the department and the "resources of the State" behind them? Losses are often shown. In Australia comparatively few of the trading operations carried on by the different States reveal even a paper profit. Obviously these losses have to be met, and met by the

taxpayers. Merchants and manufacturers who manage their own businesses efficiently have to pay more in taxes because of the inefficiency of State departments which compete with them in their own particular fields and compete on unequal terms.

Men who have embarked with their capital in any kind of business, and are giving employment to more or less labour, have right on their side surely when they urge that the State, if it enters that arena, shall enter subject to all the conditions which apply to them. Place the shoe on the other foot, and see how it pinches. Recent events show that the State can be very intolerant of private competition in such services as land transport, which it has made its own. Motor 'buses in private hands are being swept off certain roads because they compete with the railways, the property of the State. We do not enter here into that dispute, but merely call attention to a practical denial of the old proverb that what is sauce for the goose is sauce for the gander. The State can do no wrong!

Industrial Peace Proposals

Some time ago the Prime Minister of Australia (Mr. S. M. Bruce) submitted proposals for a conference representing the wage-payers and wage-earners of the Commonwealth. Concerned, as every thinking man must be, at the unhappy state of our industrial life, with its "class consciousness" and wasteful strife, Mr. Bruce felt that a coming together of all concerned, masters and men, ought to be productive of good and of good only. He invited accordingly the co-operation of employers and employed through their respective organisations, asking them to nominate for the round-table discussion contemplated persons in whom they had confidence. In this he was really following a line of action already taken, not only in Great Britain, but in New Zealand. There both parties accepted the suggestion, and in Great Britain, as we know, the results of the conference have been very encouraging.

So far as Australia is concerned, the employers were prepared to enter the conference room with an honest desire to explore the possibilities of peace and secure a greater measure of stability in the prosecution of their work. But after months of backing and filling, the employees, through their official representatives, have rejected the proposals. They would only become parties to such a conference on their own terms and conditions, and these proving unacceptable, they have signified their intention to stand out of it. This may not, and probably does not, represent the attitude of Australian working men as a whole, but it registers the temper of those by whom the workers are led, and by whose decisions they are officially bound. It is matter for regret, but not for surprise. Discussing the proposals some weeks ago, a certain union secretary said that, through Mr. Bruce, the employers were trying "to draw wool over the eyes of the

workers." That colloquialism represents the feeling of distrust which the leaders of Australian labour make it their business to foster. We cannot think they really believe that employers are as bad as they make them out to be. Why, then, this sowing of suspicion in season and out of season? Because, as we are driven to think, they do not want peace in the industrial realm. Not peace, but a sword. "Capitalism" is the union official's *bête noire*. He wishes to get rid of the hateful thing so that he may greet the industrial millennium of collective ownership, and play a still bolder part on its doubtful stage. Reason and experience count for nothing with the man who is obsessed with this idea. The pity of it is that Australian labour is so largely led by men of that extreme or doctrinaire type. On the side of labour, as on the side of capital, moderate men are the need of the hour. If the control of the industrial machine is left to the unsympathetic and unprogressive on the one hand, or to the revolutionary theoretical on the other, no one can say where it may find itself.

Cut Risky Credit Sales

(By Credit Man; 69/226.)

In times like the present, when business is difficult and turnover restricted, there is a natural temptation to take risks which would not be accepted under normal conditions. The man whose account is doubtful, whose business record will not bear inspection, often obtains credit to which he is not entitled. The slow payer, whose money costs more to collect than the entire transaction is worth, is able to trade on other people's capital because dealers are straining every nerve to increase sales.

The thirst for better figures is commendable when accompanied by common sense and care, but in these days no trader can afford to relax his vigilance for a moment in handling credit sales. Those who are constantly in touch with dealers in Australian cities will confirm the truth of these statements. They will observe that everywhere easy terms are being granted, that eagerness for business has engendered loose habits of trading. Long credits are offered as an encouragement to buy, and there is a slackness in collecting which is bad alike for debtor and creditor.

The merchant who has had experience of price-cutting and abandoned it as ridiculous, is now indulging in a practice which is every bit as foolish. What is the use of a problematic profit of a few pounds on a bad account which, written off, will swallow the margin of a large amount of sound business? The "easy credit" policy follows the line of least resistance. Anyone can build up sales and show big figures by taking risky accounts, opening new ones without adequate inquiry, or failing to make definite dates for payment. Executives need the ability to ignore mere volume of sales and look ahead from the credit point of view. To pass a questionable sale requires courage and strength of will, but these are the attributes which commerce demands under present conditions.

No demonstration is needed to prove the folly of these hazardous transactions. The instant such a sale is made the bookkeeper's anxiety begins. He knows, or rather he does not know, the amount of stationery, the number of postage stamps, and the repeated demands which must be made before this account is collected. Such a debt is a nightmare. With a dozen or so of the same type on hand, the collection part of the business becomes a burden. The office staff are kept busy writing threatening letters and wrangling with debtors, or handing them over, month by month, to collecting agencies, who, if they succeed in extracting the money, take a further percentage off an already profitless deal.

The losses sustained by manufacturers and merchants in this way are large enough. It would be interesting to know how many thousands of pounds are forfeited by retailers in the same way. The sum would be staggering. Here it will be said that no business can be carried on without bad debts. They are regularly provided for in every balance sheet. This is perfectly true. But be sure that when a loss is sustained it is one which could not be foreseen. There are definite principles which can be laid down in opening new accounts, as well as precautions to observe when an otherwise reliable buyer is known to be "long-winded."

The time to safeguard your money is at the moment the sale is made. It is fatal to "take a chance," and hope to meet trouble later on if it comes. The year 1928 is one of the periods when one may safely rely upon just this kind of trouble. No rule of commerce is broken by a close inquiry into the record of a buyer who opens a new account. A good man has no objection to this course. He probably insists upon the same investigations before he himself accepts a risk. An unfavourable report is sometimes ignored in the desire for sales. This tendency should be resisted at all costs. Do not accept an order from an unknown firm just because other houses are supplying them. Let your competitor take a foolish risk if he chooses to do so. It is quite likely he will live to wish with all his heart he had left the business to others.

At a meeting of creditors some months ago half the merchants of Melbourne were present. The bankrupts, three partners, could scarcely speak English, but had succeeded in obtaining goods to the value of £5000 from the best city houses. As one of the principals said, these men had made the merchants look like a "parcel of fools." Comparison of notes showed that the various firms would not have supplied the insolvents with a pennyworth but for the assurance that their competitors had opened an account, and the creditors were soon busy arguing that the other fellow had been the first to do it. It transpired that a few inquiries would have shown that the head of this precious gang had "taken them down" a few years previously in almost the same way, but under another firm-name.

The number of failures attributed to long credits is legion. Loose methods of collection should be tightened up. Long and undefined terms are always ill-advised. The creditor himself, even if thoroughly straightforward, is more inclined to deal with the house where his account is in good trim. The old adage still stands—"Short reckonings make long friends."

Inquiry Column

During the month we have supplied answers to the inquiries indicated below. Firms with whom we have not already communicated who hold any agency connection with the firms, or handle any of the lines mentioned in this section, are invited to furnish us with particulars so that our lists may be complete.

TRADE INQUIRIES.

Information Supplied.

W.A. Brushware Co.—Address in Melbourne supplied.

"Tuscan" China.—Name and address of agents supplied.

Le Page's Glue.—Name and address of agents supplied.

"Wearwite" Cutlery.—Name and address of agents supplied.

Clyde Nail Co.—Name and address of Victorian agent supplied.

Ewald Ahrem (tools and cutlery).—Name and address of agents supplied.

H. Moore Ltd., Birmingham (castors, etc.).—Name and address of agent supplied.

Acme Mfg. Co., Glasgow (clothes wringers).—Name and address of agents supplied.

Edward Elwell Ltd., Wednesbury (hoes, etc.).—Name and address of agent supplied.

Wire Poultry Coops for show purposes.—Name and addresses of manufacturers supplied.

W. Canning & Co. Ltd., Birmingham.—Name and address of agents in Melbourne supplied.

Dennison Mfg. Co., Framlingham, Mass., U.S.A.—Name and address of Australian agent supplied.

"Pilot" Fanlight Openers.—Names and addresses of manufacturers and agent in Sydney supplied.

Machinery for Reclamation and Irrigation Work.—Names and addresses of manufacturers and agents supplied.

Samuel Groves & Co. ("Carpathian" silver trays and waiters).—Name and address of agent supplied.

Copper Coffee Urns and Hot Pie Cupboards.—Names and addresses of makers in Melbourne and Sydney supplied.

Soldering Aluminium.

At various times we have been asked for a method to solder aluminium. The following is said to have proved successful:—

Heat the article to an intense degree at the particular place to be soldered. Apply ordinary solder and when melted rub vigorously into the metal with a steel brush. This will tin the surface. After this has been done the spot to be soldered should again be heated, but not so intensely as in the first instance, and ordinary soft solder applied.

Information Wanted.

"Anchor" Brand Upholsterers' Nails.—Name and address of agent wanted.

Dover Mfg. Co., Dover, Ohio, U.S.A.—Name and address of agents wanted.

Bailey & Sons, Stockport (cotton wool).—Name and address of agent wanted.

Fink's Fibre Valve Washers, used for hot water taps.—Name and address of makers wanted.

Dehousse Freres, Liege, Belgium (brassware).—Name and address of Australian agent wanted.

Union Mfg. Co., New Britain, Conn., U.S.A.—Name and address of agent in Victoria wanted.

Three-in-One Oil Co., 165 Broadway, New York City, U.S.A.—Name and address of agent wanted.

"Grip-on" Preparation for Machine Belting.—Name and address of firm able to supply wanted.

A. W. Wills & Son Ltd., Birmingham (spades and shovels).—Name and address of agent wanted.

German White Glazed Tiles, 6 in. x 3 in.—Name and address of agents or firms holding stocks wanted.

Nelson Electric Co. Ltd., 138 Kingston-road, Merton Park, London, S.W. 19.—Name and address of agent wanted.

Engines for driving cream separators, 1 h.p. to 1½ h.p., preferably running on benzine.—Names of British and American makes on Australian market wanted.

LEGAL INQUIRIES

Both in Melbourne and Sydney we have made arrangements with lawyers of good standing in their profession to answer through this journal any legal queries addressed to us. Readers who meet with difficulties are requested to state these as clearly as possible.

Intestate Estate.

A widow dies intestate leaving two daughters with children of their own and two other grandchildren, the offspring of a daughter who died before her mother. Are these two legally entitled to any part of their grandmother's property, and if so, what part?

A.—The daughters living are each entitled to one third of the estate and the two grandchildren to the other third between them.

Freight on Goods by Wrecked Vessel.

We had goods on the s.s. "Merimbula," which was wrecked on March 27 last. The shipping company have forwarded the account for the freight on our goods. Are we compelled to pay this freight?

A. If there was no bill of lading, or if the bill of lading provided for payment of freight on delivery, no freight is payable, but if there was a bill of lading which provided for payment of freight on shipment, freight would be payable.

What He Feared.

He was working on a high building, when he fell. In falling, he managed to grasp a telegraph wire.

"Hold on!" yelled his mates, and ran for a mattress. But he let go.

On his recovery he was asked why he didn't hold on.

"Well," he said, "I was afraid the wire would break!"

Sundry Credits

By J. Knibb.

"According to a census taken by the Directorate-General of Posts at Peking, the population of China is 485,508,838. The increase in the last three years is estimated at 49,413,885." So runs a cable-gram from Shanghai recently published in the daily papers of Australia. Sets one thinking! Growing pressure there; empty spaces here. Yellow Chinese unable to get enough bread, let alone beef, and white Australians quarrelling about beer and 'baccy. The Eastern cloud gathering darkly and our gaze travelling no further than the parish pump. Asleep we are, soundly asleep. Pray heaven we may not have a rude awakening.

* * * * *

"A Walsall hardware worker, James Bourne, has completed 65 years' continuous service with a local firm. He is 79 years of age." Bravo, Bourne! Sixty-five years behind the counter or in the workshop—the message does not say which—is a long time. And yet, I suppose, looking back, you do not feel it to be so long after all. Jacob, at four-score, spoke of his days as "few and evil." Perhaps you do the same, minus the evils, the memory of which stung the supplanter. If you have thrown off the black apron for good and all I hope the firm you served so long and faithfully have filled the pocket of it with something better than tin tacks.

* * * * *

A Long Innings. This raises the question of the age of retirement. Is a man to hang on till he is blue mouldy, so to speak, or get out while still comparatively fresh and make way for another? Australian Governments and banking institutions, generally speaking, make sixty-five the retiring age, but their employees usually have pensions to fall back upon. Most of them are satisfied with the reduced income, or make it do, at any rate, but some of the more energetic and enterprising take hold of something else in order to augment their pensions. Deprived of their official positions, they compete in the open market, sometimes with a measure of success. In the case of this Walsall worker, I take it, no pension rights obtain. In all probability he has been working for a small wage and must keep going as long as he can.

* * * * *

Retire at 65? "We would be pleased to receive any information regarding Australia which would be of interest to us, whether it is printed in English or the language of your own country." This communication, the cable has informed us, caused much amusement at the Australian Trade Commissioner's office in New York. It was received there from an Ohio writer, the traffic manager of the Twin Coach Corporation, of Kent. The Commonwealth press has been making merry over what is considered a conspicuous instance of "American ignorance of Australia." But I'm not so sure. It may be that this particular correspondent knows all about our "birth-stains" and black-fellows. He probably has reason to believe that the information he requires for twin coach purposes is written in the language of the late King Billy. Good feller Billy! Write 'm on stone! I think Sir Baldwin Spencer should be consulted.

* * * * *

Austral-English. It was touch and go with those three aviators who succeeded in reaching the American continent from Europe. Their story shows that. The Mariner's Driven out of their course by raging winds, enveloped in thick fogs, and ultimately on the Canadian shores, finding their compass quite unreliable, they had a rough spin. With natural forces running as low as their petrol they might have been sailing back into the Atlantic for all they knew or could know to the contrary. The mariner's compass is a wonderful instrument, but it is acted upon by magnetic fields and forces which have to be allowed for or counteracted. On an iron ship, for example, the ordinary compass would be useless but for the steps taken to neutralise the surrounding magnetism and make it swing true.

* * * * *

From Marysville one of the regular outings is to an abandoned wolfram mine on Mount Murphy. You may motor part of the way, but must perforce walk most of it. A stiff walk it is, with its ups and downs, but stimulating withal. Good company and glorious natural surroundings! At the end of the track you have the mine-shaft and machinery and all—the timbers falling apart, the metal rusting to ruin. Brought there on a pack-horse, I take it, its removal would probably cost more money than the whole thing is worth. The investors have cut their losses and cleared out, leaving erections and plant to fall back into mother earth. Seven years ago, at least, it must have been, for since 1920 no wolfram has been mined in Victoria. My authority is the Year Book.

* * * * *

A Mining Venture. Wolfram is an ore, one of the two principal ores of the metal tungsten, the other being scheelite. Tasmania produces a good deal of it, with smaller amounts from New South Wales and Queensland. The Australian output in 1925 was 186 tons, valued at £15,153, or over £81 per ton. Tungstic acid is used for various purposes—as a mordant in calico printing, as a constituent in some finer grades of paint, for the manufacture of electric light filaments, and for rendering fabrics non-inflammable. Its chief use, however, is in the manufacture of high-grade steel such as is required for lathes, armour plates, and the inner tubes of big guns. With a melting point higher than any other metal, tungsten imparts to the steel great density, toughness, and hardness.

* * * * *

What is Wolfram? The Rev. Walter Weston, formerly British chaplain at Yokohama, writes to the London "Morning Post," giving examples of "English as she is wrote" in Japan:—Over a transport agency office: "Leave your luggage with us; we will send it in every direction." Over a dressmaker's shop: "Clothing of woman tailor: ladies furnished in the upper story." In a tramcar on a country line near Miyaneshta, frequented by English-speaking travellers: "All parsons who are lunatics, intoxicated, or infected are not allowed in here." It may, perhaps, be permissible to set off against these, the writer continues, two instances of unintentional humour perpetrated in the streets of a well-known country town in Surrey, which some years ago I noted on a walk between Dorking and Epsom. On the notice-board of a wayside chapel it was announced that "On Saturday night, at 8 p.m., the annual potato-pie supper will be held. The subject of the sermon on Sunday morning will be 'A Night of Horror.'" Over a newly decorated restaurant this alluring notice appeared: "To cyclists and photographers. Try our 1/6 luncheon. Dark-room provided for developments."

* * * * *

English as Written. Digitized by Google

Novelties and New Samples

Belgian Electric Lamps.

Budden, Cruttenden & Neale Ltd., 191 Clarence-street, Sydney, have been appointed Australian representatives for La Lampe Soleil, electric lamp manufacturers, Belgium, on whose behalf they are showing a comprehensive range of samples embracing every type of monowatt lamp.

Enamelled Stew-Pans.

Walter A. Cox Ltd., 195 Clarence-street, Sydney, received from the Welsh Tin Plate and Metal Stamping Co. Ltd., Llanelly, South Wales, a new line of stew-pans enamelled with new-blue exteriors and pearl interiors. The two-tone effect gives a refined appearance, while the additional features of being fire-proof and fitted with tubular handles electrically welded to the bodies complete a particularly commendable line.

British and Continental.

J. L. Walters Ltd., 222 Clarence-street, Sydney, have received a new range of carvers in various shaped cases, and table knives from their principals, Thos. Ibbotson & Co., Sheffield, England.

Other recently arrived samples comprise grandfather regulator and bracket clocks, the latter having Westminster chimes and strike; fancies and alarms are also in the range displayed for Mueller & Co., Mülheim, Germany.

Vyce for Small Work.

Harry Boyle, of Boodbury House, 55 York-street, Sydney, is distributing a vyce from the Rock Island Manufacturing Co., Rock Island, Ill., U.S.A. This "Rock Island" vyce is designed for small work, such as is done in the home workshop or garage, and for radio building. It is an anvil type and has a closely fitted sliding steel-beam, the special feature about the device being that it can be fastened down with a stud and thumb screw, making it a swivel vyce, or it can be made stationary by the use of slots.

American Wire Cloth.

Scott, Henderson & Co., of 49-53, Young-street, Sydney, are sole agents in N.S.W. for the "Sun-Red Edge" brand of wire cloth, made by Reynolds Wire Cloth Co., Dixon, Ill., U.S.A. Black painted and electro galvanised, the cloth is tough, and in appearance exactly like wire screen. It is said to last for years, since it is very durable, and will not rust at places where moisture accumulates. The selvege-edge is enamelled in red, thus giving added protection where it is most needed. The cloth is graduated by marks every foot and half-foot, to ensure easy and accurate measurement.

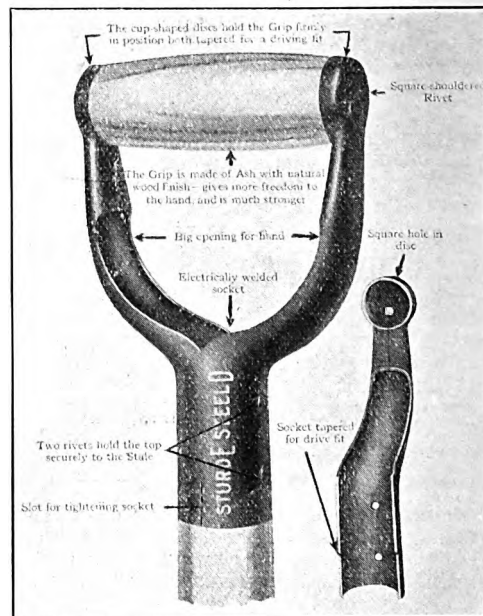
Motor Car Polish.

Reckitts (Oversea) Ltd., of Redfern, Sydney, are placing on the market a liquid in screw-top cans which they have styled "Karpol," for cleaning and polishing the coach work of motor cars. Unlike other polishes, it is not essential that dirt and dust should be removed before using, although that course is admittedly the best. A practical demonstration showed to what a remarkable degree "Karpol" could be applied to a dirty surface and yet produce a fine polish free from scratches. The more often the substance is applied the better it preserves the original polish and prevents it from

becoming scratched. It is simply applied with a wash leather or soft rag.

Improved Spade Handle.

Mr. E. R. Bennett, of 181 Clarence-street, Sydney, has received from his principals, James Potts & Son Ltd., Old Hill, Staffs., England, a sample of



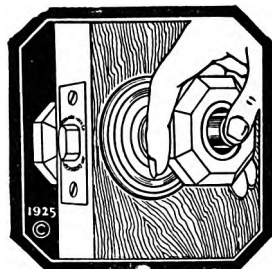
an improved spade handle which, where desired, can be applied to any or all of their spades, shovels and forks. Styled type B—sturd E, steel D—the socket and arms with tapered cup-shaped discs or caps at the top, are made from one-piece pressed steel and the ash wood grip is firmly secured by a square shoulder rivet at each side. Both the discs and socket are tapered to make a driving fit and the latter, which is electrically welded, has a slot for tightening and is fastened with two rivets thus ensuring a perfectly secure and lasting union with the shaft. Yet another feature is the larger opening which affords better clearance for the hand and easy and firmer grip. All the metal is lacquered and the wood is in natural finish.

Pipe Fittings in Black and Galvanised.

Mr. E. R. Bennett, Broughton House, 181 Clarence-street, Sydney, has recently been appointed representative in Australia for the Hartley's Malleable Fittings Co. Ltd., Bell Hall, Halifax, England, on whose behalf he holds a comprehensive range of high-grade malleable cast iron pipe fittings for gas, water, steam, etc., in black and galvanised finishes. Comprised in the range are socket unions with finely fitted two and one iron to brass seats respectively, also with all iron ground seats. The screws are particularly good and clean, as is also the finish, and every desired fitment is included in the list, which is completed with diamond and square spanners. Though distinctly high grade, discounts for all lines are quoted in competition with foreign makes.

The Schlage Lock.

"The modern lock for modern buildings" is the pertinent slogan adopted by the Schlage Lock Co., of San Francisco, U.S.A., whose representative in



Australia is Mr. Stanley B. Gamble, of Daking House, Rawson-place, Sydney. There are various types and finishes to suit different sizes and makes of doors, but all are alike in their basic principle, that is, they are locked by pressing a button on the inside knob, and unlocked by simply turning the same knob. Some can be unlocked by a key in the outside, while

others cannot be operated at all from the outside so long as the lock is set fast. The action is secured by the use of steel compressed springs throughout, two for accelerating the knobs and latch and one for retrieving the button. The type AK is for use on outside doors and is operative from the inside at all times, and from outside only when the outer knob is not stopped. The stop is applied by pressing the button in the inner knob and is released by turning the inner knob or by inserting a key in the outer knob. Type AE, an emergency lock, is operated in the same way as type AK, except that it is opened from the outside by an emergency key or any instrument, such as the blade of a pocket knife. Another type, AB, is somewhat similar to the others mentioned, but an automatic button-restoring latch prevents accidental locking.

The locks can be easily installed by screwing to the doors, no mortising being necessary, and there are no screws in the spindle, knob or escutcheon, and no adjusting.

The protective housing and all working parts are made of cold-rolled electro-galvanised steel, with glass, metal or opal knobs.

Tablet Soap for General Purposes.

"Shiftit" is the name of a soap tablet which is being introduced by Mr. C. G. Tomlinson, Chatham House, 105 Pitt-street, Sydney, and which it is claimed will clean practically anything. Soluble, like ordinary soap, the makers aver that the ingredients are pure and harmless. So far from injuring a delicate skin benefit is likely to accompany its use. Dirt, grease, paint, ink or tar can be instantly removed by its agency, and that in conjunction with either cold or tepid water. It is further application for cleaning paint work, metal, marble or glass and most all general household utensils, and also for removing stains on household linen. Only one size is made, a square tablet packed in a carton, and the article may be obtained through the wholesale houses.

Saucepans and Frying Pans.

Webeck Bros., of Pemel-lane, Enmore, Sydney, are putting the "Never-Waste" saucepan on the market. Primarily designed for boiling milk, the utensil may be used for any purpose where there is a danger of the contents boiling over. Made of heavy aluminium, it is the same shape as an ordinary saucepan up to about half its height, and then widens out to the top. A cone-shaped device, with a large opening at the top, and removable at will, is inserted in the saucepan. When the contents boil, they pour over the top of the cone and back again. The saucepan is strongly made of aluminium.

The "Never-Burn" cast aluminium frying-pan is another utensil turned out by the firm. It is claimed

that the very thickness of the pan prevents the contents from burning. The handle is machine riveted, thus preventing it from becoming loose, and a wooden grip fits into a tapered hole in the aluminium shank. The handle grip may be tightened by turning a metal screw, making a positive lock and permanent take-up in case the handle grip should become slack. The rounded edges inside the pan permit of easy cleaning.

Tradesmen's Tools.

Henry C. Dobson Ltd., of 407 Kent-street, Sydney (and elsewhere), have recently been appointed Australian and New Zealand representatives for Kaymer, Bodmann & Co. G.H.B.H. Remscheid, Germany, manufacturers of all classes of tradesmen's tools, specialising those for carpenters, motor mechanics, engineers, and gardeners. The brand "Bodmann" is upon every tool, and is the makers' guarantee of high quality, carrying with it also an undertaking to replace any tool that does not stand up to its job within reasonable limits. Buyers will appreciate the convenience with counter sales, and for stocktaking that each tool is carefully wrapped in an oil paper and encased in a neat carton with an illustration of the contents on the outside. While the whole range exhibits a fine quality and finish, and practically all tools are made on American patterns, buyers will be particularly interested in a line of adjustable spanners and wrenches whereof the thread and worm of the screw adjustment are so strongly made, and true that the jaws cannot slip or give the slightest fraction under severe pressure. Their joiner's braces and bits is another line competing with other makes, both in quality and prices.

British Taps and Dies.

The British Tap and Die Co. Ltd., Walthamstow, London, have lately furnished a new range of samples to their Australian representative, Mr. C. E. Mayo, of 209a Castlereagh-street, Sydney. It is interesting to note that almost all the production machines used in their works have been specially designed by the firm and that practically all their tools are made from a crucible tungsten alloy steel which, together with the high-class workmanship and mass production methods employed, enable them to market their tools at comparatively low prices. All the tools are made with standard threads and are thoroughly tested for hardness and other qualities. Their catalogue comprehensively illustrates all the screwing tackle lines in general demand among engineers, electricians, shipbuilders and others. Circular pattern stocks, dies and taps are put up in strong, polished hardwood cases in all the standard ranges and threads. They are exceptionally free cutting and produce a full thread with one cut. Similarly, angular pattern stocks and dies can be supplied either loose or in cases, while sets containing 24 useful sizes known as "cycle sets" are expressly made for use in motor garages. Die nuts can be had in complete sets or loose in all the regular threads. Exceptionally heavy, they are designed to give maximum service. Conduit stocks and dies for electricians are also available, together with loose tools and spare parts.

To promote sales neatly designed cards carrying a display of taps and dies for all purposes may be obtained from the agents.

British Made.

Mr. W. J. Matthews, who recently returned from an extended visit to England, has opened a sample room at 3 Barrack-street, Sydney, where he is now displaying complete ranges from various British manufacturers.

The Mysto Aluminium Co., of Birmingham, controlled by A. W. French & Co. Ltd., offer household

utensils for every conceivable purpose, made from the best aluminium. The silvery finish claimed to be retained throughout the service, together with the careful workmanship manifested in every article, are in full keeping with the material. Attention may be called to several very excellent lines of teapots in different qualities. Foremost is their No. 75, a high-class article with cast spout, cut edge, 16 S.W.G., fitted with black ebonite or ruby handle and knob. Of similar design and features is No. 75a, but fitted with insulated cast aluminium handle. Less expensive lines offer a choice of red, blue or black erinoid handles and knobs, while, for popular trade, the same style of teapot has a strong black enamelled iron handle. In about the same category is a series of kettles, the first quality being particularly strong, with screwed cast spout, cast bronze supports, and black wood or ruby grip handle and knob. Porringers is another notable line, having cut edges, tubular cast bronze, with ruby grip and knob, or solid brass handles to pot and lid. Coffee jugs are shown with perforated lid strainer, wood or ruby handles; coffee pots with perforated metal coffee container; and coffee percolators, of extra good quality, fitted with "Pyrex" glass tops, cast spouts, and wood or ruby handles. Jugs, billy cans, cereal containers, frying-pans, pie dishes, preserving pans, steam cookers, and a hundred and one kitchen and household utensils—including bathroom fittings—make up an interesting range.

The Ensor Silver Plate Co. Ltd., of Birmingham, are represented by a large selection of E.P.N.S. ware, introducing new designs in cake dishes and compoarts, nut dishes with four divisions, casseroles, trellised "pyrex" dish holders, biscuits, salads, etc. Notable are two oval shape butter dishes of classic design with covers.

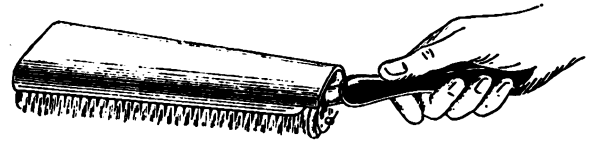
Marriss Ltd., of Birmingham, feature new lines of picnic hampers in several sizes, the cases of which are made of steel, aluminium painted, and covered with a waterproof canvas jacket. All the fitments are placed or adjusted on a non-rattle principle, the entire get-up eminently lending itself to motor travel. Other lines are made up of stained willow and three-ply, in sizes and fitments for large and small parties.

Samuel Groves & Co. Ltd., of Birmingham, specialise in the production of "Sirius" brand waiters and trays. Among an extensive range are round waiters with embossed edge and assorted chased designs in the centre, extra heavy gauge antique hammered and nickel-plated waiters in both round and oblong, light nickel-plated waiters in crazy pattern, hammer-finished solid brass ash trays, and "Hurrican" ash bowls in art bronzed finish. To assist the sales the firm have designed a collapsible display stand and have arranged to supply wholesale distributors with assorted case lots containing 67 selected household necessities in 19 varieties.

For Major & Co., Manchester, Mr. Matthews is introducing two novel kitchen appliances. One of these, the "Cookie" spoon is virtually a six-in-one article made from heavy gauge aluminium with white wood handle. The straight front edge and sides enables easy removal of food from the sides and corners of any pans, while perforation at one side of the spoon drains the liquid from food such as peas, for observation—the other side being used, on occasions, for tasting soups, syrups and such like. Separating the white of egg from the yoke is its next use; others are for poaching an egg and for lifting eggs from the frying pan. The "Just-it" takes the form of a handy triangle-shaped brush with rubber inserted at the back, expressly designed for scrubbing pans and cleaning sinks. Its compact shape allows a firm grip and the good quality stiff brush bristles do the job thoroughly while not itself collecting food. The rubber end is used for

cleansing kitchen sinks. An illustrated descriptive leaflet is wrapped with each article.

From the Yorkshire Steel Co. Ltd., of Sheffield, is shown a novel automatic crumb brush and carrier combined. The action of sweeping the table cloth



revolves a circular brush and throws the crumbs into the metal cover or carrier on the principle of a carpet sweeper. To empty, it is only necessary to tip the brush up when all that is collected falls out from the end. It is a simply made and thoroughly effective article. The brush has good quality bristles and the back or carrier is made of oxidised copper. There is nothing whatever to get out of order.

Displayed five on a neat velvet covered board is the "V" knife sharpener made by Ardinco Ltd., of London. Steel rollers are encased in a square nickelled cover, in the top centre of which are guides to ensure the blade of knife being drawn true and a fine "V" edge, rather more acute than with other makes, is obtained. The sharpening section is fitted to a well spread stand and good handle so that it is easily held firm and steady when using. It is neat, strong and attractively finished in coloured lacquer.

Septimus Vaughan Ltd., of West Bromwich, are makers of mattocks, spades, forks, shovels, etc. A new idea is their weldless digging fork worked out of one piece of steel after heating in an electric furnace. They can be obtained in medium and heavy qualities with both four and five prongs. This firm have lately put down a large plant for making the new split D handles from Herefordshire ash.

Universal Ratchet Wrench.

Motor Specialties Ltd., of 15 Raglan-street, Darlington, Sydney, are featuring the "Eifel-Flash Plierench Kit," consisting of a patent ratchet wrench and two interchangeable gear-jaws, for gripping pipe and wire respectively, fitted into a strong leatherette holster. Four-way V grooves in the jaws, forming gripping edges and gripping facets, ensure a firm non-slipping grip of almost anything from finest wire thread up to nuts or bolts of 1½ in. diameter of whatever form or shape, and even including round knobs. Moreover this tool can be used with full leverage power in seven different positions, and it is claimed for it that it has a ten-to-one leverage power-gear transmission, which grips with pressure up to one ton direct, and 128 tons per sq. in. The extra jaws require only a matter of a few seconds to adjust for their specific work, and, together with a wire cutter at the base of the head, a screwdriver fashioned from the point of one handle, and the other round and tapered for various uses, the wrench is equal to a diversified range of jobs that would otherwise require quite a number of different tools. The handles are particularly broad and fully curved to conform to the hand, which, with the diamond pattern cut-in on the backs, ensures a comfortable non-slip grip under all conditions. They are made from best drop forged steel, are 8½ in. long, and weigh 17 oz. With each kit a pocket manual is provided containing instructions upon its many different uses, not the least being the easy manner by which spiral springs can be made from fine or heavy gauge wire, also other wire manipulations provided by the four-way V grooves.

Cutlery and Plated Ware.

A complete new range of cased goods, silverware and cutlery from W. R. Humphreys & Co. Ltd., of Haddon Works, Sheffield, is now in the hands of their representative, Mr. John Campbell, of Hardware House, Post Office-place, Melbourne.

An indication of the extent of this range may be gained from the fact that some two dozen different canteens are displayed. This section alone is well worth inspection. A number of handsome designs and shapes in various woods will interest buyers. An assortment of these canteens would make an admirable show.

Something new is a dinner waggon with a fine canteen set as part of the appliance. The idea is good, and well executed. When the lid is closed, the cabinet forms the table of the waggon, while a tray is fitted below in the usual way to carry table ware. This is of Jacobean design in dark oak. A complete dozen of cutlery and spoons and forks is supplied. Another cabinet is in the form of a small table.

A wide selection of carvers is another important feature of these makers' range. Every possible design, both of cases and contents, gives an ample choice to clients. From the moderately priced set to the best presentation article, the most critical buyer will find something to please him. Quite a feature throughout the list—and this applies to all the cutlery and E.P. ware—is the evident aim to give the utmost value in quality and finish.

It is noticeable that the cutlery is not confined to one or two regular patterns, but variations in the knife designs add considerably to the appearance of the steel goods throughout the range. The grade of the silverware is also high, the firm concentrating their attention upon the better class of plate.

In the cased goods there are nut crackers, sugar spoons, pickle forks, salad servers, cake knives, jam and butter knives, knife, fork and spoon sets, and bread forks. Cased lines include afternoon tea-spoons, cake forks, fish eaters, and fruit knives. A large assortment of bread knives is made in both stainless and ordinary steel, and the latest patterns of serrated blades are a feature of this department.

In addition to the pen and pocket knives, of which a varied range is displayed, there is also a general selection of table and butchers' cutlery, as well as many special tradesmen's knives, steels, and similar lines.

Australian and British.

Ryall & Brock, of 360 Post Office Place, Melbourne, have some fine specimens of gas stoves, gas coppers, fuel stoves and register grates from the Ascot Foundry Co. Ltd., of Sydney.

One of their gas cookers, the "Wentworth" No. 1, is a development of the most modern type of this class of stove. Standing on strongly constructed legs, it is at a convenient height for the user, while the shelf underneath adds to the firmness and strength of the whole. Excellently finished in white enamel of high grade, the simplicity of parts and complete accessibility must make for cleanliness. The oven is fitted at either side, as ordered, and ample space is provided for utensils on the rings. A hot plate is fitted above. The No. 2 "Wentworth" is of the upright pattern, and has two boiling burners, as well as a simmering and a grill burner. The same design in No. 10 is fitted with nickel-plated or black front as desired, and also nickelled stand and legs.

Other types are the "De Luxe," with double oven doors, the "Regent" and the "Dudley," which is in several different patterns. All these gas stoves are well turned out both as to workmanship and finish. Gas coppers are in 10, 12 and 14 gallon sizes, the con-

struction being so arranged that clothes cannot come into contact with any rust.

Their "Kotager" fuel stove, for either wood or coal, is quite a good line. The simplicity of the design is what first strikes the eye, and the fineness of the castings and general neat and compact appearance. It is made to stand on feet, or may be built in if preferred.

A range of interior or register grates show the same high standard of quality. They are made with movable canopy and finished in bronze and nickel.

From Thomas Smith & Sons, of Saltley Ltd., comes a large range of spanners for every purpose. In addition to those for engineers, special types are made for the textile trades, the agricultural, locomotive, and ship-building industries, as well as for cycles and motors. All are sold under the firm's "Snail" brand. The list includes single and double head spanners, "S" spanners, lip or gland keys, erectors' and platelayers' spanners, and wrenches of all kinds. The material used is drop-forged mild steel. There are also hammers for all uses, plyers, and many special collars and bushings, eye bolts, and axle collets.

An excellent catalogue is issued by the English firm, and copies may be had from the agents at the address given above.

Pottery and Glassware

Staffordshire Wares.

With ranges of other samples exhibited by Mr. W. J. Matthews, at 3 Baffrack-street, Sydney, two Staffordshire pottery firms are represented.

H. J. Wood Ltd., of Burslem, have a good display of earthenware teapots in Samian, plain and highly decorated patterns, including the popular Rockingham pattern. They also make a wide range of fancy vases, bowls and jugs with exceptionally fine and distinctive decorations.

The Osborne China Co., of Longton, show some interesting lines of inexpensive teasetts with suppers to match or separate. Derby sets and others with pronounced floral borders and unconventional stencil designs are noteworthy among a long list. Buyers may select any design applicable to any desired shapes. Children's teasetts with 2, 3 and 6 cups, saucers, plates and T.C.S., are offering in assorted and pleasing decorations.

Swedish Attractions.

An interesting hand-cut crystal novelty now being displayed by A. J. Van Dugteren & Sons, Australia House, Carrington-street, Sydney, on behalf of Orrefors Bruks, Sweden, is a combination powder bowl and perfume decanter. Beautifully cut and of useful size it presents a very attractive accessory for the dressing table. The decanter is so made at the base that it fits securely into the top of the bowl, serving the purpose of a lid, while the bowl is of a squat type preventing the possibility of being upset. This firm make a speciality of reproducing on any of their crystal productions cut designs to the selection and order of buyers; that is to say, that part of or the whole design on a bowl can be reproduced on a vase or any other suitable article. An example of fine craftsmanship is evidenced in an exquisitely cut jewel container, suitably finished with hinged silverplated bands round the lid. Another commendable line seen here is an eight-day clock, encased in optic finished crystal. The casings are a decided improvement on the old models, being of a much superior grade.

Copies of the Swedish firm's catalogue for 1928 may be obtained from the agents, prices being quoted c.i.f. in sterling.

Make the Advertising Pay

A Page of Hints and Helpful Criticism

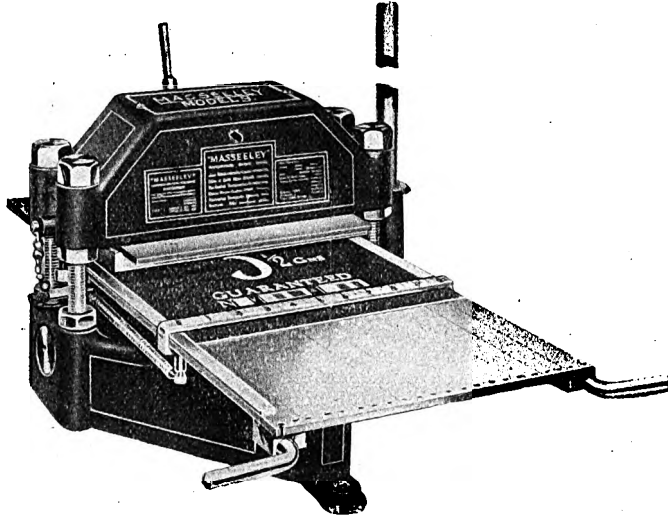
Send Us Your Ads ∴ Let Us Solve Your Problems

The Production of Window-Tickets.

Probably the most general method of advertising is by display either in window or indoors on counters and tables. We say "most general" because traders of all classes—wholesale and retail, large and small (whether advertisers, as ordinarily understood, or not)—display their goods to the best of their ability in order to attract the attention of buyers in the most favourable manner. And

done outside until such time as the student can make them successfully. Although it may be true that one sometimes sees attractive windows containing rather roughly done tickets, the master hand can generally be detected behind their production; and it is that certain uniformity that gives them strength.

If the advertiser, or his employee, be a person of artistic temperament, and possess a bent for



there can be no gainsaying the fact that the window, properly used, is one of the best advertising media the trader has at his disposal.

The art of window display is a branch of publicity with which we do not propose to deal just now, but from time to time we are asked the best way to produce window tickets and what equipment is necessary. Of course, as any experienced person knows, it would be quite impossible to give an adequate treatise in these columns, so we cannot do more than name some of the articles necessary to begin operations. If the reader wishes to become really proficient in ticket-writing, we would suggest that he obtain a reliable book on the subject (of which there are several), or attend a class at the Working Men's College, or a similar institution.

In any case we do not advise the use of unskillfully written window cards; it is far better to have them

making his hand do what his eye tells him, he will have little trouble in picking up the art of ticket-writing; whether it is advisable to use one's own time for this purpose is a matter for individual decision.

To do the work on the premises the following articles will be required:—A drawing board (if possible, it is a good plan to attach it to a table with a hinge so that it can be adjusted to suit the worker), a box of drawing pins, two or three straight-edges of various lengths, a couple of set-squares (a T-square is handy but not essential), pencils or crayons, eraser, brushes and pens, a couple of sharp knives for cutting card and paper, and a good pair of scissors. Inks of all colours can be obtained from almost any stationer so cheaply that it is hardly worth while mixing one's own.

It should not be necessary to buy a lot of brushes to begin with; it

is better to start with two or three of different sizes and to obtain others when experienced. A stub, or square-pointed pen, is best for small letters and figures, but, like everything else, it requires a fair amount of practice.

Nowadays it is not uncommon for firms to instal ticket-making machines upon which not only tickets but complete show cards—and very artistic ones—can be made en masse. From "Modern Office Efficiency" we quote the following remarks regarding these machines:

"The modern showcard machine, developed from the crude little ticket machines of a decade ago—is either hand or power operated, the latter giving output upon manufacturing scale.

"In principle the operation is simplicity itself.

"Coloured adhesive paper is at the same time cut to shape and crushed into cardboard by means of special cutting 'type.' The surplus coloured paper is removed, and the design and lettering remain permanently crushed into the card.

"Many refinements are in use ensuring exact 'register' of colours, correct alignment, etc., and for speeding-up operations, but the whole process remains so simple and trouble-free that any intelligent employee is able to operate the machine with very little practice.

"Taste in colour choice, arrangement and layout, are, of course, necessary, but these matters are under the direct and immediate contact of the responsible head, who is to transmit his ideas and see them materialise in a few minutes.

"One single card for a special purpose can be produced economically, and it is not necessary to commission a 'long run' in order to secure a reasonable cost.

"In the matter of cost it has been found that a saving ranging from 50 per cent. to 90 per cent. is a practical possibility.

"Complete pictorial showcards in four or five colours are readily operated by use of specially made sets of dies, and designs of great beauty are produced by this means.

"These showcards are, in fact, a new form of advertising, superior in sales value to the lithographed card, not only by their novelty, but by their brilliant and vigorous modernity.

"Incidentally, here is an example of a service on which people who have been released for other work by the introduction of machines can be profitably retained by an employer; so ensuring that reduction of staff on one function need not necessarily mean discharges."

Our illustration is of a Maseeley model 9 machine, the agents for which are Maseeley (Australia) Co. Pty. Ltd., of Tavistock House Flinders-lane, Melbourne.

Personal and Social

Elected to Arbitration Court.

Mr. G. T. Booth has been elected employers' representative on the New Zealand Arbitration Court in place of Mr. W. Scott, who recently resigned, and will act for the remainder of that gentleman's term, that is, until February, 1929. The senior director of Booth, Macdonald & Co. Ltd., of Christchurch and elsewhere, Mr. Booth has long been known in the agricultural implement-making industry of the Dominion. He has acted frequently for the employers in connection with disputes before the Arbitration Court and has also filled many public positions. At the present time he is a member of the Christchurch Tramway Board. The Arbitration Court is made up of three members, Judge Fraser being the president and Mr. A. L. Monteith the workers' representative. Mr. J. A. Gilmour is the registrar.

Parting Presents.

On the eve of his departure by the s.s. "Aorangi" on April 5 for an extended tour of America and the Continent, Mr. J. C. Alexander, managing director of the Clyde Engineering Co. Ltd., Granville, Sydney, received a pair of Zeiss field glasses and other travelling requisites, from the company's staff. The presentation was made by the general manager, Mr. Davison, who attributed to Mr. Alexander the credit of having brought the works to their present state of prosperity.

Hardware Picnic at Christchurch.

A few weeks ago the hardware firms of Christchurch, New Zealand, held a picnic at Diamond Harbour, the first combined outing since the Great War. Favoured with fine weather, and the able efforts of a capable committee, the picnic proved very enjoyable. A brass band added greatly to the pleasure of the function, music being provided on the picnic grounds and during the trip across the harbour. An attractive programme of sports and novelty events drew large entries, and at the close of the races Mrs. L. Pegler, wife of the general manager of E. Reece Ltd., presented the prizes.

Hymeneal.

On the evening of April 24, Mr. Noel Davis, son of Mr. A. T. Davis, managing director of Charles Davis Ltd., Hobart, Tasmania, received the good wishes of the staff on his approaching marriage. The chairman (Mr. Charles Davis), in making presentations on behalf of the directors and staff, mentioned the good fellowship that had always existed amongst the employees. He asked Mr. Noel Davis to accept a handsome present of cutlery and tableware, and wished him every happiness. He also presented him with a leather travelling trunk and rug. Mr. Noel Davis suitably acknowledged the gifts.

Valedictory.

At Hobart, Tasmania, on April 17 members of the hardware trade met to bid bon voyage to Mr. A. Harris, of Harris & Marsh Pty. Ltd., prior to his departure on a visit to England and the Continent. Mr. A. T. Davis, in wishing Mr. Harris a pleasant voyage and safe return, spoke of the friendliness and respect which all connected with the trade felt for the guest. His remarks were supported by Mr. A. H. Gifford. Mr. Harris, who mentioned that he had been in business in Hobart for over 27 years, thanked those present for honouring him in the way in which they had, and referred to his happy associations with all his business opponents, whom he also looked upon as his friends, and briefly spoke of the progress of his firm since its establishment.

Farewell Presentations.

To wish bon voyage to Mr. and Mrs. A. J. White, who left for England by the R.M.S. "Orama," the staff of White & Petrie entertained them at a dinner in the Jenolan Cafe, Brisbane. The tables were beautifully decorated and during the evening piano-forte and violin selections were rendered.

The chairman (Mr. R. Hendry) referred in eulogistic terms to the esteem in which Mr. White was held by the staff and all with whom he had business intercourse. In this he was supported by Messrs. J. G. Laidlaw, D. Maitland, R. Craig, and other members of the staff. The opportunity was also taken to refer to the regard all had for his partner, Mr. Petrie, who, when replying, commented on the harmonious relations that obtained among them all.

Before the conclusion of the function Miss Wilkins, on behalf of the staff, made a joint presentation to Mr. and Mrs. White, which included a travelling trunk, writing attache case and suite case. Mr. White, in acknowledging the gifts on behalf of his wife and himself, said he very much appreciated the sentiment which had prompted their action. He briefly outlined the growth of the business, and said it gave him pleasure to know that during his absence the same co-operative spirit would exist which in no small measure had been responsible for the success of the firm.

Death of Mr. M. K. Mackenzie.

Mr. Mervyn K. Mackenzie, one of the directors and a founder of Mackenzie Bros. Ltd., machinery manufacturers, 221 Bridge-road, Glebe, died at Leura on March 30. He was well known in Sydney commercial circles and was a member of the Mackenzie family which owned Geurie Station, Wellington. A keen sportsman, he played Rugby Union for the Manly Federal Club some years ago and he was also a well-known yachtsman. He is survived by a widow and one son.

News from Abroad

False Marking Again Prevalent.

There seems of late to have been an increase, rather than the reverse, in the false marking of goods by a certain type of manufacturer domiciled on the Continent of Europe. Among examples which have been brought to the notice of this journal there is one concerning the stamping of the words "made in Huddersfield" upon cloth known to have been produced in Italy, and another of a particularly blatant character which involves the marking of the word "Glasgow" or "Glasgow type" on iron piping sold to importers in Egypt when such piping has never been nearer to Scotland than, say, Germany. Fortunately, active investigations are being made in both cases, and if fitting pains and penalties can be imposed upon the delinquents, there may be a scurrying to cover of others who delight to do business under false colours.—"The British Export Gazette."

Business Jubilee.

Some months ago, Mr. W. R. Lysaght completed fifty years' service with the business of John Lysaght Ltd., of Bristol and elsewhere, well known the world over as manufacturers of galvanised iron. In 1881 he became managing director of the company, and their expansion since that time and the improved relations between masters and men which has marked the iron trade in recent years were largely owing to his initiative. In paying a tribute to Mr. Lysaght, the chairman at the jubilee gathering said he was a man full of human sympathy, and none of his men had ever appealed to him in vain. Mr. Lysaght knew that an employer's obligation did not cease with the payment of his workmen's wages. He was not one of those who walked on one side of the road while his workmen walked on the other. A leading article in "The Cardiff Western Mail" referred to Mr. Lysaght as a "model employer," and went on to say:—"Although a busy manufacturer, with extensive interests, he has yet been able to maintain a remarkable degree of intimacy with his workpeople, proving that the personal link is not necessarily absent when the employer is a company. In this case the personal link has served both as a means of practical sympathy and as a preventive of industrial disputes."

British Trade—Signs of Improvement.

The confidence in the immediate future of British trade which has been so marked a characteristic of recent public speeches by leading industrialists, banking experts, politicians and others, is evidently shared in full degree by Sir William Seager, president of that important body, the Chamber of Shipping of the United Kingdom. When he addressed members at the annual meeting in London the other day, he stated that if the heavy industries of the country were moving but slowly towards prosperity, they were, none the less, moving, while the expansion of new industries had provided much additional employment, and was a most encouraging sign. Also, according to Sir William, an outstanding fact is the great improvement in British shipbuilding.

It appears that, whereas at the end of December, 1926, there were under construction in British shipyards 760,084 gross tons of shipping, the figure is to-day as much as 1,579,713 tons, and, what is particularly hopeful, is that the foreign nations who have been substantial purchasers of British-built ships in the past, are maintaining, and even increasing their custom. In the face of this and the other abundant evidence of all-round improvement which

has lately been forthcoming, he must be a Jeremiah indeed who refuses to believe that the long-anticipated upward trend of British commerce and industry is now well established.—"The British Export Gazette."

Keene's Cement in America.

As far back as 1838 R. W. Keene, of London, patented the cement-making process which still bears his name. Keene's cement is or was made "in fixed kilns so constructed that only the gaseous products of combustion come into contact with the gypsum to be burnt, in order to avoid contamination with the ash of the fuel." A modern description says it is "made by saturating plaster of Paris in small lumps with alum recalcining it. It then forms a hard plaster for the projecting portions of halls and rooms, such as pilasters, columns and skirtings. It is capable of taking a high polish."

"The Du Pont Magazine" for March last tells of its manufacture in the United States by the Best Bros. Keene's Cement Co., who are said to produce about 70 per cent. of all that is used in that country. After careful inquiry and examination the two brothers Best found that the purest and amplest deposit of gypsum for the purpose was to be found at a place called Medicine Lodge, in the State of Kansas. Here they began operations in 1887 and to-day they have four quarries, three large mills, and a private railway over three miles long. The present quarries are some twenty-five miles from the mills and are linked together by a narrow-gauge railway. Electric drills are employed to bore the rock and the shots are fired by an electric battery. Since 1894 Du Pont explosives have been used exclusively, a combination of blasting powder and dynamite of low power giving the best results. Five grades of cement are made by the firm, these being used throughout the Union, not only for general plastering purposes, but as a base for those ornamental finishes now largely used for buildings of a high class.

Arc-Welded Railway Bridge.

What is said to be the first railway bridge in the world dispensing with bolts and rivets in favour of electric welding was recently constructed in America. It carries the Boston and Maine railway over a canal at Chicopee Falls, Mass., and was erected by the Westinghouse Electric and Manufacturing Co.

Various advantages are claimed for this form of construction. First, and most important, it means, so it is said, a saving of about 33 per cent. in the weight of steel required for the structure, because not weakened by rivet holes lighter truss members can be used and some connecting parts omitted altogether. Then the job, being straightforward—as compared with the laying out and drilling of a riveted structure—less time is consumed at the shops, a smoother and less-rustable surface is left for the painters, and during erection all objectionable noise is done away with, a matter of moment when such work is done in cities. The chatter of automatic riveters, like slighted love, is "ill to bide."

In the United States several buildings have already been constructed by arc-welding, including a large five-storey factory at Sharon, Pa., but the bridge at Chicopee Falls is the largest undertaking of the kind, and as such is expected to furnish important information regarding the action of welded joints in severe service. Should it prove successful there can be little doubt that the substitution of arc-welding for riveting will be largely extended, for if it possesses advantages in the case of new work, it offers even more in the case of old work. New members can be welded to an existing structure with the greatest facility.

Commonwealth Tariff Decisions

The following decisions of more or less interest to the hardware trade have been made during February. By way of explanation, it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (20/3/28, and so on) the date on or from which the new decision took or takes effect:—

Guns—

- 28/291 Rivets, pneumatic, for passing heated rivets through a flexible tube from the forge to the riveter. These appliances comprise tank, head, flexible tubing, and receiver or catcher. (By-law No. 928.) 219 20/3/28

Machinery, Machines, etc.—

- 28/292 The reference to Expander and Flaring Machine, etc., in Guide, page 202, is to be cancelled in view of the decision on Splaying and Bending Machines contained in T.D. 24/716.

Machinery, Machines, etc.—

- 28/293 Signalling Appliances (Electric), for Railways, viz.:—Selectors, dual control. (By-law No. 954.) 415a 27/2/28 (2)

Pipes and Tubes (Metal)—

- 28/296 Tubes consisting of approximately 75% copper, 20% nickel and 5% zinc, for use in plant designed for the manufacture of chlorine and caustic soda, under security. (By-law No. 935.) 415a 27/10/26

Rubber—

- 28/297 Dough, Ebonite, for the use in the manufacture of Battery Boxes, under security. (By-law No. 930.) 404 9/6/27

Wire—

- 28/300 Iron and Steel, flat section, having smooth round edges, for use in the manufacture of Reeds for looms for textiles, under security. (By-law No. 931.) 404 8/3/28

Wire—

- 28/301 Iron and Steel, grooved section, having smooth round edges, for use in the manufacture of Hauls, under security. (By-law No. 932.) 404 8/2/28

Machinery, Machines, etc.—

- 28/309 Mill, Sand, roll type, for discharging over the side. (By-law No. 943.) 174 28/1/27 only

Chain and Chains—

- 28/327 The reference to Metal Driving Chain (roller pattern) with or without angle pieces attached, for use in manufacture of Travelling Ovens, under security, in Consolidated By-laws, page 105, in By-law No. 71 and Guide, page 54, is to be cancelled, but any such Chain as was in direct transit to Australia on 30th April, 1928, may be admitted, under security, under Tariff Item 404. (By-law No. 976.) 30/4/28

Electrical Appliances and Materials—

- 28/332 Signalling Systems, luminous call, subject to the condition that security be lodged with the Collector of Customs that such Systems will be installed in a Public Hospital to be named in the security. (By-law No. 978.) 415a 22/12/27 (2)

Electrical Appliances and Materials—

- 28/333 Synchronoscopes, being instruments used for synchronizing a.c. generators and indicating the rate of variation of the voltage phase angle of any two such machines 181 30/4/28 (a) (1)

Machinery Machines, etc.—

- 28/334 The reference to Presses or Brakes (power), 8 ft. 6 in. capacity, for use in the production of steel furniture, steel shelving, and the like, in Consolidated By-laws, page 18, and in By-law No. 25, and T.D. 23/754 are to be cancelled, but any such Presses or Brakes as were in direct transit to Australia on 30th April, 1928, may be admitted under Tariff Item 174. (By-law No. 961.) 30/4/28

Pipes and Tubes (Metal)—

- 28/338 Copper Tubes insulated externally with bakelite, and fittings of similar material for use therewith. (By-law No. 979.) 415a 31/10/27 (2)

Electrical Appliances and Materials—

- 28/340 Frequency Charger, 7,500 k.w., and spare and replacement parts therefor. (Operating on the following dates only, viz.:—28/3/25, 27/4/25, 13/8/25, 28/11/25, 7/5/27, 7/6/27, 20/6/27, 1/7/27, 18/7/27, 1/8/27, 23/8/27, and 20/9/27). (By-law No. 962.) 174

Machinery, Machines, etc.—

- 28/341 Broom and Brushmaking Machines—
Shaping Machine, Brush Back Spindle. (By-law 963) 174 27/1/28 only

Machinery, Machines, etc.—

- 28/342 Cooker, 4,000-lb. capacity, and Percolator for use therewith, for the treatment of abattoir by-products. (By-law No. 964.) 174 20/12/26 only

Grinding Wheels.

The Blanchard Machine Co., of Cambridge, Mass., U.S.A., are responsible for a line of silicate cylinder-grinding wheels especially adapted for the Blanchard surface-grinding machine.

The grinding wheels are made in various grades to suit the class of material, width of surface, and finish desired. The grades are designated by numbers, and a chart is supplied showing the grades generally suited to the different classes of work.

Heavy Duty Lathe Centre.

A front ball-bearing of larger size than usual is the principal feature of the heavy duty lathe centre, which has been added to the line of such devices made by the Snellex Manufacturing Co., of Rochester, N.Y., U.S.A.

The centre is designed to make it possible to turn out work at a greater speed without burning the centre point. In the ball-bearing the races are cut deep, so that the balls conform almost completely with the grooves to assure ample load-carrying capacity for both radial and thrust loads.

Another feature of the centre is the metal packing, which closes up the space between the rotating centre-point and the tapered sleeve. This packing is lapped in to prevent chips and dust from entering the ball-bearings. An oil strainer is placed on the bottom of the oil hole to strain oil from solids which may pass through the oil cap. The tapered shank is hardened and ground for greater strength and better fitting, while the ball-bearings are lapped to alignment with each other for accuracy and reduction of friction.

These centres can be made with any taper shank and with any kind of point to suit the requirements for turning, grinding, wood-turning, milling, and spinning.

Interstate General News

Shop Reorganisation.

Stewart Hardware Ltd., of New Zealand, are having extensive alterations made to their building in Courtenay-place, Wellington. When completed, they will have seventeen windows for the display of their stocks, which cover every side of the "hardware" business. Their large retail shop will be laid out in distinctive departments, and display will be made a feature of the reorganised premises.

Shop Registration in Victoria.

Under the Factories and Shops Acts the occupier of every shop in Victoria is required, on or before May 14 in each year, to forward a properly filled in registration form, with the prescribed fee, to the chief inspector of factories, Melbourne. The penalty for default is £10. Forms are obtainable from any inspector of factories or at police stations. No direct reminders are sent to those concerned. The onus is on them to attend to the matter in the time stated.

Victorian Hardware Club.

The club are holding a big snooker tournament, which commenced on Monday, April 30. There are 52 entrants, and some interesting contests are anticipated. The one-night billiard and snooker tournaments have proved a great success.

In the billiards competitions the Hardware Club won their games against the Caledonian Club by six to nil. Against the Amateur Sports Club the club won one game only, and two games against the Softgoods Club.

Stock Damaged by Horse.

On April 25 a horse which had broken away from its "moorings" succeeded in entering, through the back, the hardware and crockery shop of Mr. W. H. Thewlis, 712 Sydney-road, Brunswick, Melbourne. A bicycle was knocked down, with the result that a foot of the animal became entangled, while two other feet were caught in the trailing rope. Then the trouble began in earnest. The beast plunged madly about the shop, bringing down the contents of various shelves, and a good deal of damage was done before a passing constable, with the help of certain civilians, got the intruder pacified, and led it away.

Iron Manufacture in New Zealand.

In New Zealand recently the Minister of Lands (Mr. A. D. McLeod) visited the works of the Onakaka Iron & Steel Co. Ltd., in the province of Nelson. Speaking at the town of Nelson, he subsequently said that the iron and steel works and the manufacture of cement at Taranaki were the two important industries of the Golden Bay district. When the country had the necessary material for the production of iron everything possible should be done to establish the industry. Many industries depended on a supply of pig iron. It was no use building up an industry that depended on the supply of a raw product if there was a possibility of the supply being cut off. A sure source of supply of pig iron was necessary in the Dominion. It was disappointing to find a number of industries that had had their requests for protection granted, buying their iron outside New Zealand. That was not playing the game. He had been very much impressed with the works, the Minister continued. There was

an opening for the outlay of additional capital in providing more machinery and improving the present plant. The juxtaposition of iron ore and lime as at Onakaka was a great advantage. Although still comparatively small, he believed the industry had great future not only for itself, but for the district.

Salving a Ship.

On February 21 last the Norwegian whale factory ship, "C. A. Larsen," ran on a reef at Stewart Island, south of New Zealand, and sustained serious damage, her bottom being ripped open over a great part of her length on one side. But the hull of the vessel is divided into a series of tanks, twelve on each side, and this probably accounts for the fact that despite the damage she is likely to ride the seas for some years longer. New Zealand divers armed with pumps and other equipment were quickly on the scene and after weeks of work they succeeded in staunching the wounds for the time being. Great patches of timber were put over the rents, saddlers' felt being used as tightening material outside and the inside floor filled with cement. When the water had been emptied out of her, in part at least, and compressed air forced into the vessel, she was floated off successfully and made the passage to Port Chalmers, 180 miles away, under her own steam. The graving dock at Port Chalmers had to be enlarged in order to accommodate the big whaler, and, even so, the rudder had to be given a turn to starboard before the dock gate could be closed upon her. There, at time of writing, the full extent of the damage is being ascertained and there, in due course, this damage will be made good and the big ship restored to her true element.

News From Canterbury, N.Z.

At the last quarterly meeting of the Canterbury Chamber of Commerce, a conference was held with the Port and City Committee regarding the necessity for a tunnel road and further improvement at Lyttelton. Representatives of the Tunnel Committee stressed the points that the tunnel road was (1) an absolute necessity, (2) a practical proposal, and (3) financially sound. Recently two companies had decided to set up their factories in the North Island instead of Canterbury for the reasons that (1) two-thirds of the goods sold in the Dominion are sold in the North Island, and (2) the port facilities in Wellington are better than in Christchurch. After listening to the financial and engineering aspects of the proposal, which was estimated to cost £470,000, it was decided to set up a committee of the Chamber of Commerce to go into the subject with the Port and City Committee.

Work has been finished on the Nurses' Memorial Chapel at the Christchurch Hospital, and last week a new school was opened at Linwood-avenue. This was erected by the Canterbury Education Board, which carries out its own work under its own architect, Mr. G. Penlington, and its foreman, Mr. B. Reilly. A contract has been let to Mr. Joseph Taylor for a branch of the National Bank at Papanui.

Recently Mr. R. E. McDougall, proprietor of Aulsebrook & Co.'s biscuit and confectionery works, donated to the city the cost of a new art gallery to the value of £250,000, and a spirited controversy has been going on in the columns of the daily press

as to which was the best site. Mr. S. Hurst-Seager has now drawn up sketch plans of the proposed structure and as to site strongly recommends the Christchurch Botanical Gardens, near the Museum and University. The Mayor (Rev. J. K. Archer) stated recently that the plans would be open for competition within the next three months to the architects of New Zealand and Great Britain.

The Railway Department has been investigating passenger competition by road, and as a result has taken over the 'bus services between Kowai Bush, Springfield and Coalgate to Christchurch. A statement by the department says this does not foreshadow a general policy of Government acquisition of road services, but is to try out the possibilities of road transport in Canterbury. The Prime Minister (Mr. J. G. Coates) stated last month at Dunedin that the railways were losing a million pounds a year under road competition. Recently in the North Island the department had to buy out between 30 and 40 'buses on the Hutt-Wellington route, and it is interesting to speculate on what the department will do with its 'buses when and if it buys all its rivals off the road.

The public meeting held in Christchurch last month to decide on some way of marking the city's Diamond Jubilee decided on Mr. R. B. Owens' scheme for a riverside boulevard, necessitating the purchase of various frontages of riverside sections. The public has been asked to donate the cost of this, but at present very little support is being given to the scheme, and the present indications are that it will fizzle out.

The river sweeper has now finished deepening six miles of the River Avon since commencing at Fendalton and has four miles still to traverse before reaching New Brighton bridge, where the tidal current operates to the sea. In spite of the heavy bank of silt ahead, the sweeper continues to do good work, and the rowing clubs are very enthusiastic over next year's rowing prospects on the Avon.

A considerable amount of unemployment still obtains and fears are expressed that it will be another hard winter for the workless. The local city unemployment organisation has exhausted the money subscribed some time ago, and when the position becomes more acute the public will be asked to contribute further.

The post office in the very old and obsolete building in High-street has been transferred to L. B. Hart's building in Lichfield-street. This will be a great convenience to the large number of wholesale merchant firms in that locality.

Compulsory Arbitration Arraigned

Business and pleasure were successfully combined at the annual meeting in Sydney on April 17 of the Metal Trades Employers' Association of New South Wales. The formal business was effectively sandwiched between vocal and instrumental items and dialogue. Some 300 members attended the function, which was held at Sargent's, in Market-street, with the president, Mr. John Heine, junr., in the chair. Everything, except the operation of arbitration awards and regulations, appears to have gone along wonderfully well with the association during the past twelve months. This was testified to by the report and financial statement submitted to the meeting. The work of the president and council came in for no small measure of praise from several speakers, and was unanimously endorsed. The operations and interest of the secretary, Mr. W. C. Myhill, and his assistant, Mr. D. M. McDonald, who acts as advocate on the industrial side, likewise received warm appreciation. Increased by 69 during the year, the membership now stands at 444, including 35 associate members.

The President's report exhaustively reviewed a number of outstanding matters affecting the welfare of the trade generally which has been attended to by the Council, including meetings in connection with combined Employers' Associations, the Vocational Guidance Bureau of the Educational Department, and the advisory committee of the metal trades at the Technical College. Of more importance perhaps had been the interpretation and application of the multitudinous awards, likewise claims made by the workmen and their Union organisers, also advice given on matters pertaining to apprenticeship, child endowment and workers' compensation. Another direction, said Mr. Heine, in which the association proposed to be of service to its members was in connection with tariff matters. Hitherto they had taken no active part in these but conditions had so changed that it was now proposed, with the approval of the members, to be made a feature of the work.

Continuing, Mr. Heine said that twenty-four years ago the system of compulsory arbitration was introduced with the intention of avoiding or mitigating industrial unrest, strikes and lockouts. No one could claim that in this respect the system had been successful. On the contrary, it had increased unrest, embittered relationships between the individual employer and his employees, had invited the fabrication of disputes, and created an army of industrial organisers who showed little or no desire to see employer and employee make amicable agreements. While preventing lockouts it had not prevented strikes.

As the association had now decided to advocate the abolition of compulsory arbitration, they were not anxious to see the Federal Government proceed any further in the matter of the proposed amendments. In their opinion this amending bill would only aggravate the strife and bitterness now prevailing. It was claimed for the bill that its penal clauses would have a correcting influence on union leaders, but the Court was already possessed of powers and one could not understand what benefit was likely to be obtained by additional powers. They were now opposed to the prosecution of employees for breaches of industrial awards. In the past they had instituted proceedings against individuals and unions for such breaches because it was the only constitutional remedy available. At the same time the practice was repugnant to them, and they were reluctant to move any further in that direction.

Methods of manufacture in the engineering trades were now such that it was possible to produce not only ordinary metal manufactures but machinery of the highest grade by the aid of unskilled labour. Their industry was hampered by foolish lines of demarcation which prevented them from manufacturing in an efficient manner. The Court supported union claims too much in their insistence that tradesmen should be employed on work which was obviously within the compass of the unskilled. The conditions of work in engineering awards were obsolete, and an alteration would have to be secured before they could hope for progress.

The stagnation in the industry could be traced back to the year 1921, when the first Federal Arbitration Court award was made, by Mr. Justice Higgins, for the engineering trade. Thinking they were starting on a new era in the Federal Court, the association suggested to the Court an award of a new character designed to protect the general engineering section of tradesmen and give opportunities of advancement of the industry on a manufacturing basis. A most strenuous appeal was presented by the president of that time (Mr. W. B. Hipsley), who put the claims for the manufacturing possibilities of Australia to the Court in a most con-

vincing manner. Mr. Justice Higgins was so impressed with the sincerity and fervency of the address as to remark that he "hoped that it may be possible to gratify the honourable ambition of Mr. Hipsley and make Australia, with its iron deposits, a great centre for constructive engineering." Unfortunately his Honour was unable to see the difference between the old-fashioned engineering methods and those needed to encourage the industry.

Twelve months ago they drafted and lodged with the Federal Court a new log of claims, again appealing to the Court to consider the necessity of establishing new conditions, which would not in any way do harm to genuine tradesmen, but, on the contrary, would give them greater opportunities of employment. Not only so, but it would permit the employment of a great number of unskilled men, who could be readily taught the minor operations in the manufacturing section of the metal trades industry. This matter was before Judge Beeby, and they had reached that stage where the Court had appointed representatives from both parties to assist in the drafting of a manufacturing award.

There was a great deal of unemployment in the metal trades, for which employers could accept no responsibility while they were bound to the old-fashioned idea that all machinery and metal parts must be "made" by skilled mechanics, in opposition to the "manufacturing" methods adopted by their competitors overseas. They must demand from the Courts suitable conditions, including a system of payment by results which would enable the enterprising members of the association to launch out into manufacture on modern lines, and in that enterprise to have the support and protection of the Federal and State Governments. Nor were they alone in this demand, for the Defence Department had found it necessary to lodge claims in the Court for similar conditions to apply to the new gun factory at Maribyrnong.

For the year 1928-29 the following office-bearers and council have been elected:—President, Mr. John Heine, jun.; vice-presidents, Messrs. W. E. Clegg and C. G. Crane; hon. treasurer, Mr. W. A. F. Waitt; and Messrs. R. J. Burns (Hoskins Iron & Steel Co. Ltd.), W. E. Clegg (Vickers-Commonwealth Steel Products Ltd.), G. B. Clerk (Standard Waygood Ltd.), C. G. Crane (Watson & Crane Ltd.), E. N. Davies (Davies, Shephard & Co. Ltd.), H. Jenner (Anthony Hordern & Sons Ltd.), S. Lowe (Lew Bros. Ltd.), J. H. Meiklejohn (Austral Bronze Co. Ltd.), T. Smith (Dorman, Long & Co. Ltd.), H. L. Spring (Metters Ltd.), B. G. Taylor (Clyde Engineering Co. Ltd.), L. Napier Thomson (Andrew Thomson & Scougall Ltd.), W. Tulloch (Tulloch's Phoenix Ironworks Ltd.), W. A. F. Waitt (John Danks & Son Pty. Ltd.), and J. While (John While & Sons Ltd.).

Publications Received

Pocket Year-Book.

Now in its tenth issue, the "Pocket Year-Book of Western Australia" for 1928 presents in very small space a very large amount of statistical information. Much of it is in tabular form, but there are summaries of important persons and events pertaining to the life of the State. The little publication is official, having been prepared under ministerial authority by the Government Statistician, Mr. S. Bennett, F.I.A.

Australian Engineering Standards.

Among the latest publications of the Australian-Commonwealth Engineering Standards' Association is one dealing with railway permanent way mate-

rial, including steel rails, steel fishplates, quenched steel fishplates, steel fishbolts, quenched steel fishbolts, steel spring washers, steel dog-spikes, and steel sleeper plates. After much negotiation and many meetings agreement between the various railway authorities and manufacturers of the Commonwealth was reached on all these matters and the present publication presents not tentative proposals, but the specifications which for the time being are standard. Even so, they will be subject, like other standardised specifications, to periodical review, and suggestions for improvement are invited from any interested quarter or person.

The headquarters of the association are at Macleay House, College-street, Sydney, with branches in the neighbouring States.

German Cutlery.

A nicely-bound catalogue of the cutlery he manufactures at Solingen is issued by Daniel Peres. The business goes back to 1792 and the registered trade mark is a barrel with a spigot in one end. Pocket and table cutlery is listed in great profusion and so also scissors and shears for every imaginable purpose. Special and tradesmen's knives are shown in a variety of forms and ordinary razors are also offered to suit every taste and pocket. We had the curiosity to count the number of pocket knives, and found that no fewer than 240 different patterns were illustrated. The list runs to over seventy pages 10 x 6 and is enclosed in stiff covers.

Charles Markell & Co., of 171 Clarence-street, Sydney, are the Australian representatives, while Mr. Louis A. Scott, of 324 Pitt-street, Sydney, holds the agency for New Zealand. It is to the latter that we are indebted for our copy of an interesting publication.

Electric Hoists of Australian Manufacture.

The extent to which electric hoists can be effectively and economically applied in factories, workshops, stores and other places where much lifting of bulky goods is required, is not so widely recognised in Australia as in some other countries. Among several devices for this purpose, the "Demag" electric hoist, supplied by Mr. T. Alexander Borthwick, Royal Exchange Buildings, Pitt and Bridge-streets, Sydney, possesses several commendable features comprehensively described in a well-printed booklet recently issued.

The standard types cover a range of sizes for maximum loads of 5 cwt. up to 5 tons and for lifting from 24 ft. up to 130 ft. As compared with electric lifts as used in some factories the "Demag" hoist costs considerably less to instal and requires no permanent attendant. Moreover, the conveyance of goods in most instances is more speedy, especially in the moving of light but bulky goods at distant points from floor to floor. As an example of the cost of running, the makers state that a one-ton hoist in a three-storey building in Sydney averaging ten trips a day with an approximate load of 8 cwt. costs less than a penny per day.

Lifting and travelling types of this hoist can be obtained for push or hand travel and also electric travel in connection with overhead runways, while other types are available for use with overhead cranes, single or double girder for combinations of both runways and cranes. Provision is made for limited headroom or where it is desirable to stack goods close up to ceilings, while others are fitted with long wheel base carriages for use where the usual loads are bulky in relation to their weight. Yet another type is the "Demag" double rail crab, which is completely enclosed and fitted with compact design of crab.

Mechanical Rubber Goods

By A. M. Munro, M.A., A.I.C., Chief Chemist, Dunlop Rubber Co.
of Australasia Ltd.

In the present age of motor transport so much public attention is focussed on motor tyres, both with regard to their price and their performance on the road, that this particular branch of rubber manufacture probably receives more intelligent study, and is more fully appreciated by the consumer than the other smaller but no less important and far-reaching division of the great rubber industry, namely, the production of what are now known under the general term, mechanical goods.

Under this heading fall a vast variety, numbering, in fact, many thousands, of different lines, of rubber goods used both in other industries and in the home or elsewhere in modern life. When we consider, for a moment, that even in some of the leading makes of motor cars rubber is employed in, perhaps, thirty different positions, in addition to the tyre equipment itself, it becomes evident that this unique material is fast becoming an indispensable factor in civilised life apart from its use for pneumatic tyres and tubes. The statement has often been made, that in our age, the world runs on rubber, but it is fast becoming true that the world rests on rubber as well.

The name Dunlop has always been associated with tyres, which have, since Mr. J. B. Dunlop in 1888 patented the first successful cycle tyre, formed the principal product from the factories of the company. Dunlops, however, also make a great variety of mechanical goods. The Australian company include in their output, rubber hose, belts, matting or floor covering, ebonite goods of every description, tennis balls and play balls of different kinds, packing for engineering purposes, rubber-covered rollers, surgical goods, sporting requisites, waterproofs, and a host of other articles.

In a previous article, published in this journal in April, 1927, the writer gave a description of the manufacture of rubber hose, and will now deal briefly with a few of the other lines. Preparatory to the building of special goods, the rubber itself must be collected at the plantations and afterwards treated at the factory, while cotton fabric, largely used together with rubber in the industry, has also to be made.

Collection and Treatment of Raw Rubber.

Rubber, or, as it is scientifically termed, caoutchouc, is separated from the milk-like juice or latex of certain trees, and the gathering and initial treatment of this latex may be considered the starting point of the rubber industry, which, at the present time, ranks in importance with the steel, petroleum, cotton, wool and cement industries, all classed as key manufactures. The latex is obtainable from a large variety of trees, vines and shrubs, belonging to several botanical orders, but, to-day, most is derived from a large tree known as the *Hevea Brasiliensis*. This tree, growing to a height of 60 ft.

or more, can be tapped for latex after it is three or four years old, but it only comes into full bearing and gives the maximum yield at an age of about ten years.

In the earliest days of the industry practically all of the rubber used was collected from this tree, which is indigenous to and grows wild in Brazil in the Amazon valley. The latex was obtained by making a herringbone cut in the bark of the tree and allowing the liquid to slowly drip into small vessels or cups placed to receive it. This latex was then coagulated by dipping into it a large wooden paddle, drying the thin coat of latex by waving the paddle in the smoke from a fire of palm nuts, and continually repeating the process until a large ball or "biscuit" of rubber was built up. This South American rubber became known as "fine para" after the port of Para from which it was shipped, and the name has been perpetuated.

With the rise of motor transportation and the unprecedented demand during the last ten years for tyres, the growth of the plantation industry has been rapid, for as late as 1912, it is estimated that 95 per cent. of the rubber used throughout the world was the wild fine para rubber from South America, whereas to-day over 95 per cent. of the total production of raw rubber some 500,000 tons is derived from the *Hevea* tree artificially cultivated in plantations in the tropics.

The history of the establishment of rubber plantations is interesting, although the story has often been told. In the year 1876, Mr. H. A. Wickham, a planter and botanist, was commissioned by the British Government to obtain some seeds of the *Hevea Brasiliensis*, or rubber tree and he succeeded, in the face of great opposition from the South American Government, in smuggling out of Brazil a cargo of about 70,000 seeds under the designation of "rare botanical specimens." A few of these seeds were grown at the Kew Botanic Gardens in London, and the seedlings were afterwards despatched to Ceylon, whence at a later date they were distributed to various parts of the East, to form a starting point for the present-day plantations. It was not, however, until about 1910 that the plantations began to produce rubber in really large quantities in such districts as the Malay States, Ceylon, Java, Sumatra, and more recently, Papua.

Moreover, the coagulation of plantation rubber instead of being effected through the agency of smoke is carried out by the use of small quantities of acetic acid, and a large amount of research work has been done in order to discover the best and most economical methods of tapping and coagulation. At the present time a plain Y-shaped cut is often used in order to minimise damage to the trees while only a comparatively small percentage of acetic acid is

added to the bulked latex, placed in tile-lined tanks, for coagulation. The most scrupulous cleanliness is observed on modern plantations and the day's output of latex is scientifically blended, coagulated and washed. Other methods for coagulation have been perfected, such as by spraying on to hot rollers, a process resembling the production of dried milk, but generally speaking the older acetic acid method still holds its own. The rubber is skimmed off the freshly coagulated latex and is washed in a spray of water between the steel rolls of a washing mill and afterwards sheeted and dried, and in some cases smoked. In certain cases the rubber is milled between rolls which travel at different speeds, and a lace-like sheet of rubber, known as "crepe," is formed, which may either be smoked, or by the addition of a small amount of sodium sulphite for bleaching and preservative purposes, kept in a pale condition.

Vulcanisation.

Although in the early days rubber was used in the unvulcanised condition, for example, by Charles Mackintosh, for making waterproof coats, the modern rubber industry may be said to date from the discovery of vulcanisation by Goodyear and Hancock in 1839. Raw rubber is too sticky and plastic and subject to the action of heat and cold to be of commercial use for most purposes, and Mackintosh found that when making coats he had to enclose the sheets of unvulcanised rubber between two layers of fabric to make what is still called a double texture coat.

Vulcanisation merely consists in heating the rubber with a small amount of sulphur whereby the physical condition of the rubber and its corresponding properties are profoundly altered. Even to this day what exactly happens during vulcanisation is not exactly understood, although there can be no doubt that some of the sulphur forms a chemical compound with the rubber and that this compound spread throughout the mass has some action on the latter. One of the most peculiar things about vulcanisation is that so small a quantity of sulphur can have such a marked effect on a comparatively large weight of rubber. Raw rubber is more or less plastic, like a piece of chewing gum, and while it will show considerable resistance to abrasion in this condition, it has very little tensile strength or elasticity. Vulcanisation increases these two properties and also enables the compound rubber to retain the shape and size of the moulds in which it is heated.

Manufacture of Rubber Stocks.

Raw rubber is received at the factory in bales of compressed sheets packed in light wooden cases, and in some cases before using it receives a further washing. The washing is carried out on a line of powerful electrically driven mills in which the two horizontal fluted rolls revolve at different speeds and exert a tearing action on the rubber, which is subjected to a stream of water from a spray. Pieces of bark, traces of acid, and splinters from the cases, which are often present, are removed. After washing the rubber the next step is to dry it thoroughly and in the old days this was accomplished by hanging the wet sheets of rubber over racks in a well-ventilated and warm room. The drying room was darkened because the rubber of that period was often inclined to oxidise and become sticky or tacky under the action of light. Nowadays, research has discovered a better method. Contradictory as it may appear, the rubber is dried in a warm damp atmosphere in a special type of kiln. The humidity of the air in the kiln is carefully regulated, and the dampness of the atmosphere prevents a hard skin or crust forming on the sheets of rubber before the moisture from the interior has had time to escape.

Pure vulcanised rubber, or, as it is technically called, "pure gum," is only employed for a limited number of purposes, such as the making of certain types of electrical gloves for high tension work, some patterns of inflations for milking machines, and so on, and it is usually necessary to mix intimately with the rubber before vulcanisation considerable quantities of chemicals such as zinc oxide, carbon black, iron oxide, antimony sulphide, magnesia, and a host of others. The materials chosen will depend on the class of rubber required, and these additional substances must in no case be regarded as merely adulterants, although in some cases they are put in to cheapen compounds for low-priced goods. They are added for a definite purpose. Zinc oxide and carbon or gas black increase the tensile strength of the stock and improve its resistance to abrasion and tearing. Iron oxide and antimony sulphide are largely used in red rubbers as colouring matter, although hard red rubber, such as is found in dental plates, is coloured with the more expensive vermilion or mercury sulphide. Magnesia and litharge act as accelerators of the vulcanisation process, and in addition to these two mineral fillers a very large quantity of organic chemical compounds of a complicated nature is employed to accelerate vulcanisation. These accelerators, by cutting down the heating time and the temperature, enable production with a given plant to be greatly increased and it is estimated that accelerators have saved the industry in plant and time many millions of pounds per annum.

Recently another class of chemicals has been discovered called anti-oxidants, which added in small amounts to vulcanised rubber preserve the latter from oxidation and perishing and increase its useful life.

After the drying of the rubber is complete the first operation is to prepare from the rubber suitable mixtures with some of those chemicals as well as with sulphur, which must always be included for vulcanisation purposes, in order to form a stock or dough from which various rubber articles may be built. After the rubber and the ingredients have been weighed out, they are transported in a large bin to the mixing room, where the raw unvulcanised rubber is put on to a mixing mill, consisting of two large smooth steel horizontal rolls, internally cooled with water and electrically driven. By means of screws the rolls can be brought up close together or can be separated, while in the majority of cases it is arranged by suitable gearing that the back roll moves faster than the front, so that the mill exerts a tearing or grinding action on any material which is passing through. Under the rolls is a large zinc-lined tray designed to catch any of the powders which may fall through so that they can be swept up and again passed in to the rubber. In these mills, with the aid of the heat developed by friction and on account of the grinding action of the rolls, the rubber is softened, or, as it is termed, "broken down." It is then in a fit condition to absorb the various mineral powders. The breaking down is continued until an even coating of rubber adheres to the front roll, which is kept slightly hotter than the back roll by suitable adjustment of the flow of cooling water. The rolls are then brought more closely together and a charge of fillers and other ingredients is emptied from the bin on to the top of the rolls. A thick bank or layer of soft rubber now revolves between the two rolls and the ingredients gradually work into the rubber. From time to time the operator, with a short knife, cuts off the rubber from the front roll and folds the sheet back upon itself until, after about twenty minutes, a homogeneous dough or stock is obtained, which has the consistency of a stiff putty.

(To be concluded.)

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.

For English prices, see The Month's Cablegrams on page 181

Sydney, May 2, 1928.

Business in some directions is very favourable, but against this reports from other sources give a contrary view. It would seem there were fluctuations in the volume of orders in certain lines with some houses and in others there was a marked absence of regularity. Some of the business effected was very small and the trade quote this as indicating the pulse of trade. Most of the large manufacturers are busy on current orders, but report forward orders not as large as they would desire. Throughout the period January to April of this year manufacturers have found a disposition to place orders for small periods ahead, not far enough to give the maker an assurance of regular business through out the year. It may be this is dictated from a financial point of view. Keen competition has been noted in the sale of galvanised corrugated sheets particularly 26 gauge. Figures have varied considerably, and distributors have reduced prices all round. Imported sheets have sold readily, however, and indent business has been written in satisfactory quantities. Wire has shown a reduction and trade is quiet at present. Block tin has met another fall in price, and manufacturers are only buying requirements. Tinplates, Welsh I.C., have received attention from manufacturers, and indent parcels have been booked at current prices for cif and e basis. Resin and turpentine ex spot stocks have shown an upward tendency due to sales, and consumption is much greater than for some time past. The indent prices for new season's pack, 1928 American shipment, have remained firm, and the trade expect a good season in sales. Jute fabrics showed activity, and cornsacks are at present in demand for season's delivery, with quotations firm. Woolpacks are quiet. Considerable business has been written in shellac and most of the original parcels have changed hands more than once. The market is now sold for this year's crop, and wholesalers are of the opinion that prices will go higher. Oils have had a ready sale and the country demand for particular grades has been good. Builders' materials have kept steady in demand, and there is a healthy condition noted in the trade. Suburban storekeepers are having quite a fair month's trading; money is being spent with care, but cash trading is more healthy than of recent date when purchases were of small denomination and not widely spread.

Christchurch, April 16, 1928.

A rush for building permits suggests better times in the city building trade, with its reactions in favour of hardware. Several big jobs are to be commenced before long. Already a fair amount of painting is in hand, but the need for economy is hampering operations. The change from summer to

winter sports now takes place, and this is keeping the hardware sports department very busy in supplying football, golf and hockey requisites. There is still a very noticeable sale for tennis material, as many people play this game on asphalt courts right through the winter. To further help their sales of golf material several firms have set up practice nets in their sports departments and invite their clients to put in any spare time improving their play. One firm advertises that a professional coach will be in attendance daily. It is now well into autumn, but very little rain has fallen locally, so that farmers have had to delay their ploughing till conditions make the ground more easily worked. Good purchases are reported of sheep netting and fencing

NEW ZEALAND PRICES

	Duty.	Auckland. Mar. 26	C'church Apr. 16	Dunedin. Apr. 20	Wellington Mar. 29
IRON—					
Bar—		£	£	£	£
English ..	Free	21	22/	21/	22/
Shoeing ..	"	23	23/	21/	23/
Steel ..	"	15/10 to 21/-	20	22/	15/ to 22
Pig ..	"	8	10/6	10/6	9/- to 10/-
Plate ..	"	21 10/	24/	25/	22/
Hoop ..	"	24/, 35/	25/6, 37/6	30/	25/ and 35/
Sheet, Bk. to 20-g. ..	"	23 10/, 24 10/	23/6	26/	24/6
22 & 24 g. ..	"	25 10/	26/6	28/	26/6
Galv. Cor.—	2/-				
First ..	"	28	30/ Builders	30/	28/
Second ..	"	27	27/-	27/6	27/
Local ..	"	28			
Do., Plain ..	Free	29/10/3, 30/15	31/ 33/	35, 37, 39	28
24 & 26 g. ..	"	50/	47 1/2 off	42 1/2	45% off
Pipe—Galv. ..	Free	60/	50 off	50 off	50 off
Black ..	"	60/			
Wire—	"				
Galvd. ..	"	15/6, 18/-	16/	16/	17/ to 18/
Black ..	"	16/-	16/	15/	
Barbed ..	"	21, 23 10/	21/-	21/	21/ to 22/
Nails ..	2/4/-	20/6	20/	24 to 23	22
Lead—Pig ..	Free	30/-	33/-	36/	32
Sheet ..	"	34 10	38/	36/	39
Shot ..	"	10/	75/	80/	75/
Tin—Ingot ..	Free	2/7	2/9	3/2	2/10
Plates ..	"	32/6, 48/6	40/	40/	37/6
Zinc—Sheet ..	"	7 1/2 d. 1b.	9d. 1b.	8 1/2 d.	7 1/2 d.
Quicksilver ..	"		6/6 1b		
Cement—					
Imported ..	1/- cwt.	5/8	24/- cask	6/	5/11
Local bag ..	Free	26/-	30/-	28/-	27/
P. of Paris ..	6/- cwt.	54/	57/6	56/-	58/
White Lead ..	"	53/	1/9	1/7	57
Best ..	"	1/8			1/8
Second ..	"				
Blast Powder ..	Free	111/	111/	111/	111/
Rope— ..	20%	107/	107/	107/	107/
Manila, Star ..	"	81/ 88/	88/	88/	88/
Flax, N.Z. ..	"				
Corn sacks ..	Free				
44-in. ..	"				
46-in. ..	"				
48-in. ..	"				
Woolpacks ..	Free	5/3	5/3	4/6	5/3
Full ..	"				
Oils—					
Lins'd, raw ..	6d.	5/-	N.Z. 5/- Eng 5/3	5/2	5/3
Castor ..	Free	5/-	5/6	5/5	5/6
Colza ..	"	7/9	8/	8/	7/9
Kerosene ..	"	13/9	14/9	14/6	13/9
Turpentine ..	"	6/6	7/-	6/6	6/6

standards and ample stocks of ploughshares are being held in anticipation of good business to follow. Although the trade returns for the Dominion's financial year ended March 31 last show that an adverse balance of 2½ millions has been converted into a favourable balance of 10½ millions, the need of economy, both public and private, seems as great as a year ago. While the general outlook is more promising than for months past, this favourable trade balance does not guarantee an immediate or early return to our former prosperity. Several alterations in prices have been made. Second-grade iron is down by £1 per ton, and nails to £20 per ton basis. Ingot tin is also reduced to 2/9 per lb.

Dunedin, April 20, 1928.

Although business has hardly got into its full stride since the Easter holiday intermission, there is every confidence that the future will be satisfactory. The closing wool sales, which took place here recently, help to confirm that opinion in view of the higher values maintained. City buildings are still proceeding apace. The two new theatres which have been under way for some time are nearing completion and should be opened for business within a month or two, while the new City Hall is now up to the first storey. Great satisfaction has been expressed at the successful accomplishment of the salving and docking at Port Chalmers of the ill-fated "C. A. Larsen," the huge Norwegian whale-factory ship, which ran ashore on some jagged rocks at the entrance of Paterson's Inlet, Stewart Island. The dock had to be extended to accommodate the vessel. Since last advice, English bar-iron has been reduced from 22/- to 21/-. Shoeing also is down to the same figure, and hoop to 30/-. Galvanised corrugated iron has gone back to 27/6 for second brands. Sheet lead is ruling now at the reduced figure of 36/-. In the oil section linseed has been reduced to 5/2 for raw, and castor to 5/5. Cornsacks are quoted at 12/9½ for 44 in., 12/5½ for 46 in., and 13/3½ for 48 in. Wool-packs, full size, are higher at 4/6.

Brisbane, April 30, 1928.

For the hardware trade in Queensland April proved to be a very patchy month, but the general impression is that prospects are better, and there is reason to believe that May will prove more satisfactory. The heavy rains experienced after Easter has greatly interfered with the even course of business, and devastating floods with loss of life have been recorded in many parts, particularly in the Fitzroy basin contiguous to Rockhampton. Many storekeepers in these parts have sustained heavy losses. Heavy hardware has been irregular, but prices are steady, and stocks in fully supply. Pastoral supplies have been moving fairly well. Fencing wires have been in strong demand, no doubt due to the flooded conditions prevailing in many parts. Prices of fencing wires, Australian manufacture, have eased a little, and stocks are plentiful. Wire netting has also eased a fraction; fair business is reported for the month, and stocks are well up to demand. Woolpacks are selling well, and prices, as anticipated, have firmed a little. Stocks are fairly good. Sanitary ironmongery accessories and materials are on the slow side. The rain has greatly interfered with household connections for the month. Lead piping has dropped a little, otherwise prices are steady and stocks plentiful. Paint and oils are still hanging back, and trade in this section is very depressed. Prices of white lead (imported) and turpentine have eased, otherwise prices are unaltered. Turpentine is flooded on the market, and it is some time since it touched such a bedrock price. Shelf goods have been spasmodic, and there is too much stock held here at present, with every prospect of keen prices prevailing for some time to come.

Crockery and glassware have been slow and hard to shift. Prices are as keen as it is possible to make them, and stocks heavy. Aluminium and enamelled hollowware are also on the slow side, but the demand has improved as the month closes.

Adelaide, May 1, 1928.

Trade was a little brighter at this centre during the month under review, and business generally is being conducted with more optimism. At time of writing the season has broken, and rain is being recorded in most of the agricultural areas. Merchants are holding fairly heavy stocks of all hardware lines, but this has not influenced prices to any extent. With the merchants well stocked, it followed that little inter-house business was noted. Fencing materials showed some activity. Galvanised wire and mild steel fencing standards changed hands in small lots at slightly under list prices. Galvanised and black tubing were also called for, prices for these items remaining substantially the same. Building materials continue to be extremely slow, although the trade shows some signs of revival. Painters' lines show a slight improvement over previous months, but the only alteration in prices is the reduction of turpentine to 5/5 per gallon. Although still extremely slow, the tone of business is better, and while no rapid recovery is looked for, it is confidently expected that trade will gradually but steadily recover during the coming months.

Melbourne, May 2, 1928.

A little business was transacted in metals during April, principally in steel bars and sheets. Sales included 25 tons round mild steel assorted ½ and ¾ in. at £14 net; a five-ton lot of ¾ in. at £16 net, and another 25-ton parcel of ½ in. at £15/10/-. Black steel sheets, 6 x 24 x 10 gauge, changed hands at £17/10/-. Galvanised hoops found buyers here and there; in 5-ton quantities, 1½ x 16 g., sold at £30. Fencing materials were quiet, both netting and wires being offered without much response. Transactions noted for No. 8 black wire were seldom more than five tons at a time, the price being £14; the same applied to galvanised wire, No. 8 fetching £16/15/- less discount, and No. 9, £17 net. Netting in lines of about three miles, 42 x 1½ x 17, sold in several places at £41/10/-; 42 x 1½ x 17 at £49; 36 x 1½ x 18 at £28/15/-; and 30 x 3 x 16 at £24 15/-. No great quantity changed hands. The price of ingot tin varied from £248 per ton in the early part of the month to £242/10/- later on. A line of 50 boxes I.C. coke tin plates sold at 46/6. Cement and plaster did not sell to any extent, and no change in prices was observed. One or two sales of imported plaster, in parcels of 25 casks, FFF. K.W. brand, went at 35/- net. Galvanised iron found a moderate demand at unchanged rates. Paints and oils found only moderate inquiry. An application was made to increase the duty on linseed oil in small packages by sixpence per gallon, both for foreign and British products. It is stated that the trade in Australia hopes to standardise prices for local oil. Rapid fluctuations in price have occurred recently through the competition between Commonwealth factories, the distributors finding it difficult to handle by reason of these varying quotations. They doubtless prefer a more settled market price. General hardware is quiet, and trade turnover for the past month small. This may have been partly due to the holidays. Among representatives of overseas manufacturers undoubted signs of increased business are observable. For many months buyers have been distinctly subdued, preferring to clear stocks before ordering. Indications of a return to conditions approaching normal will be heartily welcomed.

The Month's Cablegrams

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date	Copper Electrolytic Per Ton		Tin Standard Per Ton		Silver Standard Per Ounce	
	1927	1928	1927	1928	1927	1928
Mar 30	£ 62½-62¾	£ 66½-67	£ s. d. 309 7 6	£ s. d. 239 1 3	d. 26½	d. 26½
Apr 3	62-62½	66½-67	311 7 6	239 17 6	26½	26½
" 9	61½-61¾	66½-67	305 2 6	231 11 3	26½	26½
" 17	61½-61¾	66½-67	306 2 0	235 0 0	26½	26½
" 24	61½-62	66½-67	294 6 3	233 12 6	26½	26½
" 30	61-61½	66½-67	294 2 6	230 16 3	26½	26½
May 3	61½-61¾	66½-67	296 7 6	232 17 6	26½	26½

The stocks of tin in the United Kingdom at the end of April were 14,861 tons; the deliveries for the month, 1922 tons; the quantity on spot, 882 tons; and the quantity afloat 1390 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—April 2, £20/2/6; April 9, £20; April 17, £20/1/3; April 24, £20/16/3; April 30, £20/5/-; May 3, £20/11/3.

For the month of March the imports of lead into Great Britain were 19,510 tons, including 7794 tons from Australia. The exports for the month are 1136 tons.

Spelter.—The spot quotations for spelter, as cabled from London, have run as follow:—April 2, £24 18/9; April 9, £25/6/3; April 17, £25/10/-; April 24, £26/7/6; April 30, £26/1/3; May 3, £26/5/-.

Tallow.—Following are the statistics for April and particulars of the latest auction sales:—

Apr.	Casks	Date	Casks Offered	Casks Sold	Mutton Med., per cwt.	Beef Med., per cwt.
Imports	1027	Apr. 4	Nil			
Deliveries	1052	" 11	Nil			
Stock	1428	" 18	708	401	37/6	37/6
		" 26	Nil			
		May 2	700	625	38/	38/

Poor Salesmanship.

(American Paper.)

Recently we saw and heard a young merchant sell an electric table stove. He waited for the customer's request before he attacked it. It was a new stove, just taken from wrappings, and, of course, there was a puff of smoke as the dust and protective coating burned off. "Does it always smoke like that?" asked the lady. "No, m'am," was the reply. "It gets hot enough to make coffee, does it not?" she inquired. "Yes, m'am," replied the merchant. Fortunately for the merchant, she bought, and in so doing displayed a purse well filled with bills. We have been wondering since how many of those bills this young merchant could have taken had he shown a single sign of salesmanship. "People who buy those things are just roomers," he said, in explaining. If "just roomers" want to live modernly and pay their way, why should they not be helped by the merchant?

Non-Shatterable Glass

Non-shatterable glass, which is now making fast strides in the American motor manufacturing field, is a clear-vision glass, without reinforcing wires in its structure, and is identical with ordinary plate glass in appearance. The type of non-shatterable glass used in windshields and windows of automobiles consists of three layers. The two outside layers are of the finest plate or sheet glass. The middle layer is a binding composition commercially known as pyroxalin plastic. This is a perfectly transparent sheet of cellulose material, like celluloid, which may also be used.

Two pieces of glass and one piece of pyroxalin plastic are first cut to the exact size and shape of the desired windshield or window. The measurements must be precise and the cutting very exact, because, after it is finished, the size cannot be altered. The three laminations, or layers, are laid together and put through seventeen different processes, including elaborate chemical cleaning; pressing between huge presses, which exert many tons pressure on each piece of glass; heat grinding and polishing, and sealing. The result is that the three laminations become so closely welded together that they are actually one piece.

An interesting step in the manufacture is the sealing. Inspection of a piece of this glass will show a narrow black seal along the centre of every edge. This is the sealing compound, which is an integral part of the product, and is applied to the outside of the juncture of the three laminations. As long as the seal is left unbroken the glass will stand up under all kinds of weather and vibration. It keeps out all influences which, if they could get in between the layers, would in time eliminate the very safety features which are essential.

This glass is not unbreakable. It is non-shatterable, and the distinction is important. Under impact it does not shatter or create flying fragments, because the flexible centre layer holds tightly to the outside layers. It does not make any cutting, jagged edges. The whole glass is flexible under strain. A windshield has been bulged 4 in. out of line without shattering. The glass was scored like new ice hit by a stone. It never throws any fragments, because the plastic binding layer holds to its outside sheets and prevents any particles leaving. Under very severe impact this glass will yield and let a flying body pass through it. But even then it does not make jagged edges, and does not lacerate the body. Its edges are smooth and flexible. The safety value of non-shatterable glass is the more readily appreciated when it is realised that more than 65 per cent. of all injuries in automobile accidents are caused by shattered glass, according to statistics gathered by an American insurance association, which conducted a wide survey to determine the percentage of injuries caused by flying glass.

Another type of this non-shatterable glass is the impenetrable kind, used as a protection against bullets. This is heavier than windshield glass, consisting of a layer of glass, a layer of the binding composition, a middle layer of glass, another of the composition, and a final layer of glass. The five laminations may be an inch thick. They turn aside machine-gun fire at 15 yards, it is said. Glass for protection against bullets is used in armoured cars employed in transporting money, jewels and bullion. It is being more widely used, however, by banks and other financial institutions for partitions enclosing the cashiers, paying and receiving tellers and others so as to safeguard them against bandits.

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney May. 2	Melbourne May 2	Adelaide May 1	Brisbane Apr. 30		Duty	Sydney May. 2	Melbourne May. 2	Adelaide May. 1	Brisbane Apr. 30
Pig Iron ...	20/ 40/	£	£	£	£	Zinc—		£	£	£	£
British ...		...	7 5/	7 10/	...	Sheet 9 to 18g	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.
Swedish ...		...	7 5/	...	...	(7 x 3 & 8 x 3)		4/9	7	...	5/6
Lithgow ...		7 10/	7 5/	...	...	Perforated	35%, 45%	32	...	54/	...
Newcastle ...		7 10/	7 5/	7 10/	...	Spelter ...	10%, 20%	30 1/10 to 37	41 to 42	...	40/
Bar and Rod	44/ 120/	23 basis	English 21	21	22 10 basis	" Elec....	25%, 40%	1/9	1/5	...	1/9
Australian ...		...	18/6	17 10/	...	Bolts & Nuts—		75/ 59/	63/ 47/ 41/	...	26 3/ to 73/
Mild Steel ...	44/ 120/	19 10/ basis	19/ basis	19	18	Cuphead 3"	35%, 50%	76/ 57/	61/ 46/ 39/	...	...
Bar ...		19 10/	18	19 10	19	" 4"		70/ 54/	56/ 43/ 37/	...	...
Angles ...		21	18	20 10	20	" 5"		65/ 49/	52/ 39/ 35/	...	...
Tees ...						" 6"		61/ 47/	49/ 38/ 34/	...	...
Hoops ...	F., 10%	20 basis	19 basis	19/	21/ basis	" 6 1/2 to 9"		59/ 45/	47/ 36/ 32/	...	...
Black ...		29/9 basis	32	38/	32 10/	" 9 1/2 to 12"		6 10/	5 10/	...	5
Galv. ...		25	24 10/	25	27 5/	Tanks, 400-gal.	Free	3 10/	3	...	3 10 1
Galv. Corr. 24g.	20/ 60/	26 10/	26	26 10/	28 15/	200-gal.				...	...
Orb 26 g ...		...	...	...	...	Tubing—	F., 10%	55 off list	55% off	58 1/2 off	List 45% off
"		...	...	...	...	Black, up to 3"		27 1/2	60% off	35 off	5% on
Phoenix Cr.		26	25	27 5/	28 15/	3 1/2 & up		50	55% off	46 1/2 off	40% off
Galv. Plain 24g.	20/ 60/	30 1/	26 5/	27 15	28 15'	Galv. up to 3"		40	37 1/2 off	20 off	Less 5% off
Queen's Hd.		...	...	...	...	3 1/2 & up		...	5% off	37 1/2 off	25% off
Phoenix Cr.		26 5/	25 15/	27 15	28 15'	Steam, up to 3"		...	10% on	20 off	List
Fleur-de-lis		...	...	...	40	3 1/2 & up		...	...	...	...
Other		...	...	...	...	Wr'ght boil.		...	...	...	...
Sheet ...	F., 125/	26 basis	25 basis	25 15	26	Explosives—	F., 5%	1/-	10 1/2 d.	1/-	1/1
Black ...		B26, G34 5/	26 10/	...	19	Hall's C.C.	10%	10 1/2 d.	10 1/2 d.	11 1/2	1/1
Baldwins ...		...	...	...	...	Curtis's		10 1/2 d.	10 1/2 d.	11 1/2	1/1
Plate ...	F., 120/	17 1/2 basis	15 basis	15	15 10/	Chilworth's	15%, 25%	3/6, 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/
Steel ...		19 6/	21	19	20/-	Sporting		10/	8/ to 8/6	8/3 to 8/6	5/
Girder ...	F., 120/	18 5/	18 5/	...	...	Diam. S'less		8/6	7/ to 7/6	6/9 to 7/6	75/
Fencing Wire		19 5/	19 5/	...	...	Amberite	F. 5%	72/6	74/6	74/6	78/6
American 8		14 2/6	15	15 10/	15 10/	Blast'g Gel.		65/	66/	66/	71/
Austra'n 8 Bl.		14 13/6	16	16	16 10/	Gelignite		56/ to 60/	56/ to 59/8	54/6 to 58/6	62/ to 66/
Galv. 10		15 18/	17 5/	17 10/	18	Dynamite	15%, 25%	51/ to 57/	51/ to 57/	46/6 to 51/6	58/ to 102/
" 8		16 9/	18	18	19	Detonators	5/ 6/	65/	55 to 60/	60/ to 85/	58/ to 102/
" 12		18 12/6	19 10/	20	20	Shot—Chilled		63/6	61	71/	90/
Barbed Wire,	68/ 180/	24	...	...	25 10/	Australian		61	56	...	1/6
Amern. 12-g.		25 10/	...	...	26 10/	Cyanide Pot.	Free	1/4	1/6	5/8	8/6
Austn. 12-g.		24 10/	23 10/	24	25	Quicksilver	Free	7/6	5/	16/6	18/6
" 13-g.		26	25 0/	26 10/	26 10/	Sash Weights	35%, 45%	15/	18/	60/	60
" 14-g.		...	...	...	...	Sheep Shears	F., 10%	62/6	65/	21/-	21/ cwt
Wire Netting	F., 200/	£48/15/0	36 15/	28	New	Cement—Imp't'd	20%, 30%	21/ cask	21/-	7/-	50/ cwt
36 x 1 1/2 x 17	per. ton	£41/15/0	29	35	List	Aust. (bags)		37/6 K.W.	85/	9/3	18/ bag
36 x 1 1/2 x 18		£33/ 0/0	49 15/	...	...	Plaster, Imp.	1/6, 2/c	Pixie 35/-	8/	...	...
42 x 1 1/2 x 17		£35/15/0	41 10/	33	...	Slates (20 x 10)	30%, 40%	...	...	...	...
42 x 1 1/2 x 18		£28/ 7/6	34	33 10	...	White Lead—	8/ 10/ or	63/6	63/	64/-	57/6
36 x 1 1/2 x 17		22 1/2 to	35	...	15 to 20%	Imported	25%, 30%	57/	59/	60/	55/6
36 x 1 1/2 x 18		25% off	22 10/	23	Off List	Australian		...	70 to 100	...	72/ to 80/
36 x 2 x 18		list	20	20 15/	Off List	Zinc White	20%, 30%	...	...	...	Colonial 56
36 x 2 x 19		...	...	...	...	Oils—		...	...	...	...
Nails—						Linseed (raw)	9d., 1/	R5/3	Drs.,	Drs., 5/9	5/2
Horseshoe ...	12/ 15/	Less 10%	to 1/1b.	1/ less 10%	List Price	Imported		C4/8 D6/8	5/6	4/9	4/6
" Austn.		...	List	...	...	Australian		...	C., 4/	...	...
Wire ...	5/6, 8/	28/6 basis	18/ to 20/	24/6 to 35/	29/- basis	Colza	6d., 8d.	...	6/-	...	...
" Austn.	or 25%, 35%	65/- cwt	65/cwt., 9/6	9/-	11/	Burning	9d., 1/	C 6/6	6/3	6/9	6/10
Roofing—	5/6, 8/	...	...	38/	38/	Castor—		...	8/	...	10/
Even-den		...	...	...	...	4-cases	2s., 2/6	...	8/6 to 10/	...	...
Lead-head		...	...	...	...	Cotton seed	6d., 8d.	...	13/	13/	12/6
Block Tin ...	Free	£237/	250	2/7	3/	Kero.—C.O.R.	Free	18/	13/6 to 14/6	13/	12/6
Tin Plates,		...	...	...	...	Laurel ...		13/	18/6 to 14/6	18/6	12/6
28 x 20—	F., 10%	112's 60/-	62/6	112's 52/6	27/	Light of Age		13/	18/6 to 14/6	13/	12/6
I.C. Coke ...	28 x 20	35/-	70/	...	42.	Pennant		5/-	4/9	5/3	4/4
I.X. Coke ...		...	...	...	...	Turpentine	F.	3/	18/ per case	2/8	2/6
Pig Lead ...	Free	25/6	25	29	37/10	Substitutes	1d., 1d.	3/6	2/6	3/4	3/-
Austn. ...		...	...	...	...	Shellac	6d., 9d.	...	...	...	...
Sheet Lead ...	10%, 20%	39/	50	43/6	49/	Whiting—		8/-	8/6	9 10/	£12 ton lots
Dampcourse		4 1/2 6/6	48	...	...	English ...		6/3	4/9	5/	5/
2 lb. ...		4 1/2 9/9	47	...	...	Colonial	Free	32/6	32/-	28/	38/
3 lb. ...		...	...	...	...	Resin, G grade		...	...	...	...
Lead Pipe—	10%, 20%	44/	47 10/	46 5/	58/6	Carbide	80/ 150/	32/6	27/ 6	29 5/	29 7/6
1/2 to 2 in. coils		46/	52	48 15/	60/	" X L "		34/-	32/10	33 10/	33
Lengths to 5'		49/	51	48 10/	57/	Scandinavian		...	...	...	...
Compo. 1/2" & up		...	...	...	...	Canadian		...	...	...	...
Copper—		...	...	...	...	Japanese	100/ 200/	...	...	...	...
Ingot		70	78/	10d.	1/8	Bluestone		36(1 cwt c/s)	...	37/6	40/
Sheet ...	25%, 40%	1/5 1/2	1/7	1/8	1/6	Macclesfield		...	1/5	60/-	...
Brass		1/3	1/2 to 1/6	1/6	1/6	Australian	25%, 35%	...	...	...	...
Sheet ...	25%, 40%	...	...	...	...	Stock Tar, 42 g.	Free	10/6	12/6	11/6	11/9
		...	...	...	...	Woolpacks—		8/5	10/6	10/-	10/7
		...	...	...	...	42 x 1 1/2		...	...	...	...
		...	...	...	...	54 x 1 1/2		...	...	...	...
		...	...	...	...	23 lbs. (Oats)	Free	...	...	...	...
		...	...	...	...	24 lbs		...	...	...	...
		...	...	...	...	Branbags	Free	...	...	...	...

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

H. S. Housden & Co., brassfounders, etc., Marrickville, announce that E. R. Clendinning has retired, and Edward A. Clendinning has become a member of the firm.

Mr. S. J. Senior, until lately manager of the hardware department of Universal Distributors Co. Ltd., Eastlake, Canberra, has now gone into business on his own account at Queanbeyan, trading as S. Senior & Co., and specialising in hardware and electrical and sporting goods.

Firms Registered.

W. R. Bird & Co., general storekeepers, Mount George; proprietress: Blanche A. Watt.

Standard Iron Works, ironfounders, 664 King-street, Newtown; proprietor: Arthur G. D. Shannon.

Utility Patents, ironmongers, 51 Campbell-street, Sans Souci; proprietors: James Robson and Arthur T. Arnold.

G. Sands & Co., hardware importers, 5 Hamilton-street, Sydney; proprietors: George C. Sands and Reginald W. Solomon.

King & Cox, brassfounders and finishers, 100 Angel-street, Newtown; proprietors: William E. King and Horace A. Cox.

Company News.

Bright Drawn Steels Ltd. have been registered with a capital of £5000 in £1 shares. Objects: To manufacture or otherwise produce bright drawn steels in all shapes, etc. Subscribers: Aubin R. Lhuède, Fred Bell, John L. Bush, Alfred H. Silver, G. H. Silver, Eileen Bell, and Violet M. Silver. Reg. office: Sydney.

Harold Meggitt Ltd. have been registered with a capital of £100,000 in £1 shares. Objects: To acquire by agreement the business carried on at Gladesville under the style of Harold Meggitt. Subscribers: Harold Meggitt, Florence T. Meggitt, Harold C. Meggitt, Florence P. Meggitt, George R. Meggitt, Rolls E. Huntley and Eric Campbell. Reg. office: Gladesville.

Blakes Ltd. have been registered with a capital of £25,000 in £1 shares. Objects: To acquire by agreement the business of general merchants and storekeepers carried on at Corowa under the style of L. Levy & Co. Subscribers: Frank E. J. Blake, William M. Burnett, Geoffrey S. King, Marcus Sievwright, Fred M. Fisher, George R. Collins and William S. Boyce. Reg. office: Corowa.

Australian Separator Co. Ltd. have been registered with a capital of £6000 in £1 shares. Objects: To acquire by agreement the business of separator machinery merchants and agents carried on at Market-street, Sydney, under the style of Australian Separator Co. Subscribers: Walter A. Cox, Stanley A. Lloyd, Percival A. Lyttle, Thurstie M. Cox, W. M. Cox, Kenneth B. Marsh and Audley H. Gillman. Reg. office: Sydney.

New Zealand

Company News.

Briscoe & Co. Ltd. have moved from Worcester-street to the corner of Cashel and Madras streets, Christchurch.

Georgeson Bros. Ltd. have been registered with a capital of £4000 in £1 shares. Objects: Woodware manufacturers. Subscribers: G. Georgeson and J. W. Georgeson.

Sheet Metal Works Ltd. have been registered with a capital of £600 in £1 shares. Objects: Sheet metal workers and incidental. Subscribers: H. C. Frost, J. H. Edwards and J. O. Dowd.

Bond Tractor Scoop Co. (N.Z.) Ltd. have been registered with a capital of £3000 in £1 shares. Objects: Deal in agricultural scoops and incidental. Subscribers: A. J. Bond, J. W. Wilson and K. S. Mace.

Clausens Keen Kut Stores (Napier) Ltd. have been registered with a capital of £2000 in £1 shares. Objects: To carry on the retail business of glassware, china, crockery merchants, ironmongers, etc. Subscribers: C. O. McNaught and L. M. Rankine.

Stewart Hardware Ltd. have been registered with a capital of £30,000 in £1 shares. Objects: To carry on the business of ironmongers, hardware merchants, and general incidental. Subscribers: C. S. Ballingall, R. P. Stewart, A. M. Anderson, J. Hutchen, J. P. Hutchen, M. G. Miller and C. L. Anderson. Office: 80-82 Courtenay-place, Wellington.

Bleakley's Ltd. have been registered with a capital of £2000 in £1 shares. Objects: To carry on the business of iron foundry, mechanical engineers, and manufacturers of agricultural implements and other machinery, and general incidental. Subscribers: L. H. Whyte, Chas. W. Bleakley, E. F. Haydon and W. A. A. Arnold. Office: 35 Taranaki-street, Wellington.

South Australia

Company News.

Metal Products Ltd. have been registered with a capital of £5000 in £1 shares. Objects: To acquire from William Charles Blatchley Turner and Robert Jeffrey Oswald, patents, brevets d'invention, licences, concessions and privileges that have been acquired or may hereafter be acquired by the vendors in Great Britain, Australia, Canada, New Zealand, South Africa, America, Germany, Norway, Sweden, Japan, or elsewhere in respect of an invention known as "the hollow metal axe handle." Subscribers: David Percy Bell, Harris Morgan Lewis, Kenneth Gibson Oswald, William Charles Blatchley Turner, and Robert Jeffrey Oswald. Reg. office: 78 Franklin-street, Adelaide.

Victoria

Ryall & Brock have removed from Hardware House to Melbourne House, 360 Post Office-place, Melbourne, a few doors from their old address.

Hicks, Nolan & White, sheet metal workers, 9-13 Gower-street, Kensington, announce that William George Basil White and Allan White have become members of the firm.

Firms Registered.

J. Robertson & Son, storekeepers, Port Albert; proprietors: John Robertson, junr., and Alan John Robertson.

H. Hendy & Son, carpenters, furniture manufacturers, hardware and paint dealers, etc., 224 Bala-

clava-road, Caulfield; proprietors: Harry Percy Hendy and Percy Harry Hendy.

Company News.

A. G. Healing Ltd. have removed from Post Office Place to 167-173 Franklin-street, Melbourne.

William Adams & Co. Ltd. have declared a dividend at the rate of 7 per cent. per annum on their preference shares for the past half-year.

Downings Pty. Ltd., ironfounders, engineers, merchants, etc., have been registered with a capital of £2000 in £1 shares. Subscribers: William Evan Downing and Ernest Arthur Wright.

E. H. Harratt Pty. Ltd., general merchants and storekeepers, have been registered with a capital of £5000 in £1 shares. Subscribers: Edward Hamilton Harratt, Jessie Myra Harratt and Margaret Harrett. Reg. office: Turriff.

Grip-Lock Safe Seal Pty. Ltd., manufacturers of and dealers in machinery, wire and hardware, have been registered with a capital of £10,000 in £1 shares. Subscribers: Claude Rupert Elden, Charles Henry Atkinson and Eva Stones. Reg. office: Waltham-place, Richmond.

Miller Bros.' Ironworks Pty. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business of boiler-makers and engineers carried on by Miller Bros. Subscribers: Francis William Miller and Stanley James Miller. Reg. office: Salisbury-av., Ballarat.

L. Keegan Pty. Ltd., engineers, iron and brass founders, etc., have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business carried on by Clarence Edward Louis Keegan. Subscribers: Clarence Edward Louis Keegan and Eva May Keegan. Reg. office: Leslie-street, West Brunswick.

W. Phelan & Sons. Pty. Ltd., undertakers, ironmongers, timber merchants, etc., have been registered with a capital of £10,000 in £1 shares. Objects: To carry into effect an agreement with William John Phelan for the purchase of the land, shop and premises at Maryborough. Subscribers: William John Phelan and Emma Minnie Phelan. Reg. office: High-street, Maryborough.

The W. A. Purvis Stores Pty. Ltd., storekeepers, have been registered with a capital of £25,000 in £1 shares. Objects: To acquire as a going concern the businesses carried on at Moe, Erica, and Brown Coal Mine under the style of W. A. Purvis Stores. Subscribers: George Clifton Purvis and Edith Mary Purvis. Alice Maud Evelyn Purvis and Myra Alexandra Purvis are also directors. Reg. office: Moe.

T. H. A. Lambert Pty. Ltd., general merchants, ironmongers, timber merchants, etc., have been registered with a capital of £15,000 in £1 shares. Objects: To acquire as a going concern the businesses carried on at 694 High-street, Kew, and 131 Burnley-street, Richmond, by Thomas Henry Alexander Lambert. Subscribers: Thomas Henry Alexander Lambert and Clarence William Lambert. Reg. office: 694 High-street, Kew.

Western Australia

Frank R. Perrot, machinery agent, 332 Murray-street, Perth, have been registered under the Firms Act. Proprietor: Albert William Vance.

Bullock's Agency Co., general agents and hardware and fancy goods dealers, Kulin, announce that Robert Thomas Gray has retired and Rupert Roy Palmer has become a member of the firm.

Agents and Agencies

Slade, Allan & Co. are to be found at Princeton House, 235-39 Clarence-street, Sydney, and Danks' Buildings, 403 Bourke-street, Melbourne. Their Sydney address was wrongly stated in a recent issue of this journal.

Mr. P. Clifton Jones, Australia House, 52 Carlington-street, Sydney, has lately been appointed Australian representative for S. Winkle & Co., Burslem (pottery), and Val D'Or, St. Cloud, Paris (hand and breast drills, drilling machines, vices, braces, grinders, polishing heads, chucks, etc.).

Travellers

In Queensland.

Mr. J. L. Walters, of J. L. Walters Ltd., 222 Clarence-street, Sydney, recently returned from a successful business trip to Melbourne, Adelaide and Perth. In Perth he opened a branch showroom at Queen's Chambers, William-street, thus completing a chain of offices in the three centres named. His stay at headquarters was brief as he left for Brisbane on May 5 with a full range of samples on behalf of his various principals.

In Victoria.

Mr. Arthur N. Johnson, of 150 Castlereagh-street, Sydney, representative for Wingfield, Rowbotham & Co. and other British manufacturers, expects to be in Melbourne on May 9 with full ranges of samples at the rooms of Ryall & Brock, 360 Post Office-place.

To Europe.

Mr. F. E. Stokoe, a director of Baldwins & J.C.M. (Aust.) Pty. Ltd., 95 Queen-street, Melbourne, left by the R.M.S. "Moldavia" on April 24 on a visit to Europe.

Early Mings.

The parvenu was making some purchases for his new house at an art dealers. He picked up a magnificent vase and asked, "Wot's this?"

"That sir, is an Early Ming vase. Of course, you may consider it expensive, but then it is only for the art connoisseur," replied the dealer.

"Oh, well, I'll have it; but you might tell me where I can buy a few early mings to put in it."

Bracing Bits.

The school of experience never has any graduates; its course is never finished. However, a wise man can avoid many unpleasant experiences by giving heed to the experience of others.

Josh Billings was more than a mere humorist. He was a philosopher. He once said: "The man who gets bit twice by the same dog is better adapted for that kind of business than any other."

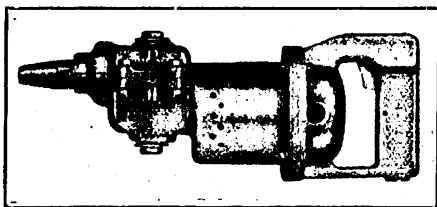
Regard failures as a possibility only; never as a probability. If you decide that you are going to fail, you will probably make good on your decision.

The best way to adequately fill a position of responsibility is to search out and correct the faults which are holding you back.

Machinery

Portable Electric Hammer.

The Ajax Electrical Hammer Corporation, of 117 West 63rd-street, New York City, U.S.A., are responsible for a portable electric hammer known as the type B2. It was intended primarily for drilling and chipping brick, marble, cement and metals, but it is adaptable to other uses as well. A chuck that holds standard tapered-shank drills fits directly in



the hammer, which is provided with a handle for rotating the drill whilst in operation.

There are only three moving units; the motor, the crank shaft assembly, and the plunger, all of which are housed in an aluminium casing. The crank is driven at right angles to the motor by bevel gears. A hardened roller mounted on a hardened steel pin extends from the face of one end of the crankshaft and engages in a curved slot cut in the face of the plunger, imparting a variable speed reciprocating movement. Approximately two-thirds of the revolution of the pin is consumed in lifting the plunger, and one-third in throwing it with increased velocity against the tool head, so that no shock is transmitted directly to the gears or motor. Thus, it is claimed, it is impossible to stall or overload the motor.

The hammer delivers 2400 blows per minute, irrespective of the size of the tool being used. The drilling speed with a 1 in. drill is about 2 in. per minute in concrete. For the smallest size hole of $\frac{1}{8}$ in. diam., the speed is much greater.

The tool consumes 220 watts, and weighs approximately 10 lb. Control is by means of a trigger switch located in the handle of the tool.

Power-driven Hand Tools.

"Flextol" power-driven hand tools introduce a principle of working not hitherto seen in such light tools insofar as the scope of a "Flextol" is not confined to one or two special jobs, but has a wide range of uses. For example, type A will drive all sizes of wood or metal screws up to $\frac{1}{4}$ in. Whitworth. It will also set all set-screws and nuts up to $\frac{1}{2}$ in. diameter, bore holes in wood up to $\frac{1}{8}$ in., and in metal up to $\frac{1}{4}$ in. It embodies a five-to-one reduction of speed, with which the standard motor gives an operating speed of 300 r.p.m., and has sufficient power to drive a full range of wood screws without boring or equivalent duty. It affords the operator complete control, and the greater end pressure he exerts the greater is the torque on the tool. It is also claimed for it that it is impossible to overdrive any screw without deliberate intention. The hand piece weighs 2½ lb., and although containing no worm or tooth gearing, is capable of standing up to the hardest work indefinitely.

Type B "Flextol" hand piece is constructed to drill holes in metal up to $\frac{1}{4}$ in. diameter, and can be used for buffing, grinding, wood milling, and for disc or cylindrical sand-papering, and a number of other operations.

A motor is supplied with these tools to suit all

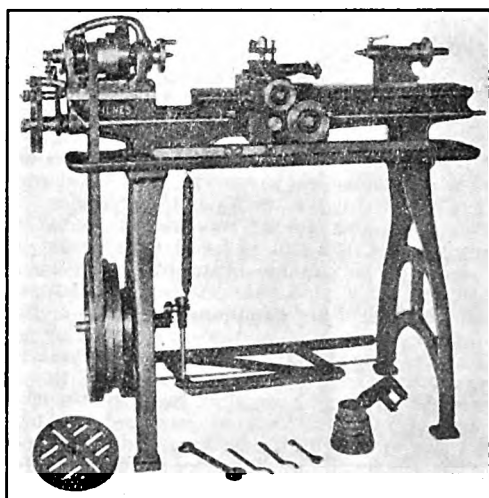
standard A.C. and D.C. voltages with a standard speed of 1450 r.p.m., but a special speed motor can be supplied for grinding and wood milling up to 3000 r.p.m. The motor is arranged so that it can be suspended from a hook, put on a table or fitted into a counterbalanced frame, admitting the tool to be pushed away by the operator when not required for use. The flexible shaft connected with these tools is of special design, is provided with a ball thrust, and revolves in a metallic casing lined with steel strip, and supplied either 9 ft. or in special lengths as may be required.

Further information respecting these tools can be obtained from the representative, Mr. T. Alexander Borthwick, Royal Exchange Buildings, Pitt and Bridge-streets, Sydney.

48 in. Centre Lathe.

Henry Milnes, of Ingleby Works, Bradford, England, recently placed on the market a 48 in. centre lathe, with gap bed 4 ft. long, to take work 2 ft. 5 in. between centres. The swing is 5½ in. over the boring table and 12 in. diam. by 3¼ in. wide in the gap. The boring table measures 8 in. by 5 in. The spindle is bored $\frac{1}{4}$ in. diam., and is driven by a 3-step cone pulley with a back-gear ratio of five to one. The spindle runs on roller or plain bearings as desired, and a ball thrust washer is fitted. The bed has vee and flat guides, the back head being locked for alignment against the inner flat face of the back shear. The saddle is guided on the front way by a raised vee directly over the screw, a gib at each end preventing lifting. The carriage provides a boring table, and the slide rest can be adjusted to any angle by means of a teleslot.

The chief improvements have been effected in connection with the apron. It is secured to the carriage by sunk screws from the top, adjusted by a box spanner. The nut for the lead-screw is splined. It is a solid casting, bearing at the front a spur gear, and at the back a bevel gear, a ball-race being



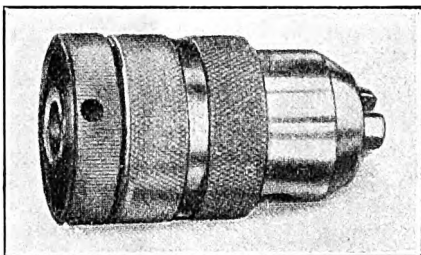
provided at each end. For moving the carriage by hand the nut is revolved on the screw, but for screw-cutting purposes, it is held stationary by a spring plunger, which engages with a projecting longitudinal tongue on the nut casting. For ordinary sliding five spaces are provided into which the plunger

can be pressed. A knock-off motion pushes the plunger out and stops the sliding or cutting motion at any desired point, and an indicator dial shows when to engage the nut in screw-cutting.

The lathe can be obtained for bench use, or with a stand, as a floor machine. The power can be applied by treadle, the usual countershaft, or a direct-coupled motor.

Keyless Drill Chuck.

An improved keyless, self-tightening, ball-bearing drill chuck has been added to the line of products put out by the Eastern Tube & Tool Co., of 594 Johnson-avenue, Brooklyn, N.Y., U.S.A., under the name of "Ettco."



The chuck has a continuous grip, and does not depend upon the operator to tighten it sufficiently to hold the drill. It is only necessary to close the chuck by hand, after which it takes its own grip, and as the drill point goes deeper into the work, the grip becomes firmer. It also increases with greater feed or with hard spots in the work.

It is claimed that no matter how tight the chuck's grip, it can be released by hand by a quick twist of the wrist. Also due to its construction, there is said to be less slipping, so that wear on the drill shank and chuck jaws is reduced.

The chuck has been designed for use on electric or air drills, and can also be used to advantage on flexible shaft units. The holding collar on top of the chuck is held by the operator to prevent the drill from turning when opening or closing the chuck. This device is said to eliminate certain abuses that electric drills are subject to, such as using a nail in the ventilating holes to prevent the armature from turning.

This chuck is furnished with any thread or tapers to fit all standard makes of electric or air drills on the market.

Power Shovel of Australian Make.

A number of Government and municipal engineers visited the works of Armstrong, Holland Ltd., Kent-street, Mascot, Sydney, on April 26, for the express purpose of inspecting a new power shovel made at the works. Driven by a 58 h.p. 4-cylinder "Invincible" engine, this shovel was shown to lift half a cubic yard of earth and stone at each thrust, and it is claimed to be capable of taking three loads per minute, while the elaborate hauling structure can be turned through four complete revolutions in one minute. The machine moves on caterpillar wheels, and has two speeds forward and two reverse. With the exception of the engine, the whole of this machine was designed and made at the firm's works, and although the first of its kind produced in Australia, from the point of high efficiency, simplicity of construction and operation, it compares favourably with any other machine of its particular class yet known.

Wrench Kits for Millwrights and Others.

The Bonney Forge & Tool Works, of Allentown, Pa., U.S.A., are marketing two additional lines of chrome-vanadium wrenches, designed for use by millwrights and loom-fixers respectively.

The millwright kit consist of "S" wrenches, designed for the work, and made lighter, thinner and stronger than the earlier type. The loom-fixer's kit is designed particularly for repair men in textile mills. They are short and stocky in design and heat-treated. Both kits contain three wrenches furnished in a leatherette case.

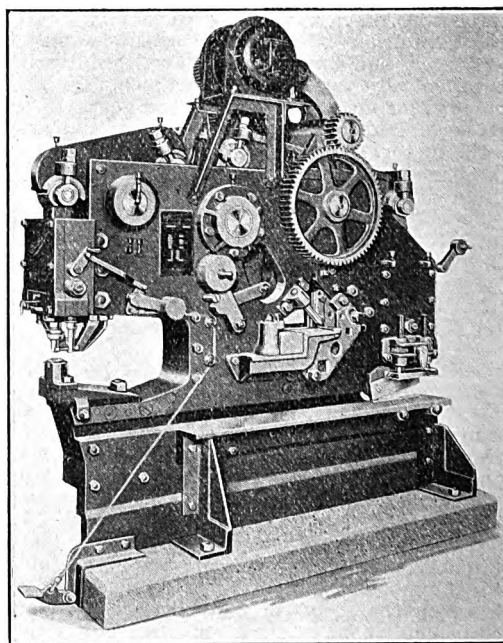
Chrome-Vanadium Wrench.

The Armstrong Bros. Tool Co., of 315 North Francisco-avenue, Chicago, Ill., U.S.A., are the manufacturers of a chrome-vanadium steel wrench. The wrench is drop-forged and heat-treated. It is finished in nickel over copper, and the heads are buffed bright. The jaws are of a thin and narrow design. All standard sizes are produced in this tool.

Universal Iron Worker.

The illustration hereunder is of a new universal iron worker which the Buffalo Forge Co., of Buffalo, N.Y., U.S.A., have placed on the market. Two sizes of this new machine are available, Nos. 2½ and 3½. Perfected as a result of the success of the firm's smaller machines—Nos. 0, ½ and 1½—they meet the need of shops requiring the large capacities, but not the high punch throat of the firm's 25 to 29 U.D. combination punches, slitting shears and bar-cutters. The lower throat requires a compact and powerful design with less bulk.

Both these new machines are built with the same strength and careful workmanship, and are covered by the same guarantees as the other armour-plate iron workers put forward by these makers. Certain distinctive features have been incorporated, however.



One eccentric runs all three tools—punch, shear and bar-cutter—in succession. That is to say, all three tools are actuated during the course of one revolution of the eccentric, but not at the same instant. This prevents overloading the machine and yet permits using the three separately controlled parts at the same time. Although not in so great a range of sizes as in the larger U.D. machines, the high and low die blocks are interchangeable. The bar-cutter is the same as on these others. The shear blades, which are exceptionally long, are reversible. High carbon steel castings combined with electric welding give a machine at once powerful and compact.

Tools for the Garden and Orchard

Buyers' Notes for Retail Dealers

Sydney

Mr. Harry Boyle, of Bradbury House, 55 York-street, Sydney, carries several brands of pruning shears, and makes a feature of the well-known "Pexto" line. Worthy of mention are the display fixtures, which are sent gratis with each assortment of tools ordered. They are in metal and are lithographed in four colours. They can be stood on the counter or in the window, or hung on the wall, and such can carry eighteen shears.

A display fixture is also given free with an assortment of "Pexto" snips, which are made in twenty-one different styles.

Small border forks, hoes, spades and shovels, as well as digging forks with round, square and diamond prongs can be supplied from the large stocks on hand.

Briscoe & Co. Ltd., of 383-85 Kent-street, Sydney, are well supplied with reaping hooks and bagging hooks by Tyzack. Short and long handled trowels and garden hooks are on hand in quantities to meet the demand.

Hedge shears are in various styles and sizes, a 6 in. lightweight type being suitable for women. Combination hoes and rakes are in stock from all the principal makers, and they are available with or without handles. "Crescent," "Success" and "Regal" spraying pumps are stocked, as are all necessary accessories. English, American and German rakes are available with and without handles, the sizes ranging up to six prongs. Dutch hoes range in size from 4 to 8 in., the former being suitable for women's use, and included in the lines from Tyzack is another small and light style. Vine hoes are available with three and four tines, both flat and square shape.

The firm are showing a range of gardening and harvesting gloves, a notable line having canvas backs and chrome palms. Rubber hose and accessories are in great array, prominent in the display being the "Noxall" brass controlling nozzle, the chief feature of which is that it is machined from solid brass rod, this process ensuring, not only that the nozzle is durable, but that it is also leak-proof. Made in Australia, the device throws a stream which can be regulated to a fine spray, or a heavy shower, and it can also be made to throw a stream a long distance. The "Rain King" can be had in the stationary style or with revolving nozzles. It can be regulated to water smaller corners, strips and odd-shaped spaces, as well as larger areas, a gentle mist, a soaking downpour, or light shower being available at will. The aptly named "Crescent" sprinkler throws the shower in a half-circle, and thus can be approached without danger of a wetting. The "Prospect" is another handy device which can be regulated to rain a light mist or heavy shower by a simple movement. Attached to a spike, it can be fixed to send a shower in any direction. The rubber hose in stock includes supplies from all makers, and the American sun-proof hose is featured.

John Danks & Son Pty. Ltd., of 324-30 Pitt-street, Sydney, are featuring Pope's new irrigation system, an Australian patent for the better production of fruit and vegetable crops. The method adopted is the use of sprinklers, the water being

conveyed through pipes. The underlying idea has been in operation for some time, but the advantages claimed for the Pope way are that it is economical, light, strong and effective, and easy to work. The pipes are strong enough to resist high pressure and light enough to be easily transported. There are no screwed joints, no wing nuts or pins, but a perfectly secure and watertight joint is made by a half-turn of the clamp, which is self-locking. The pipes are flexible, so as to allow play in any direction, and they will follow the contour of the roughest ground. Under proper pressure the sprinklers will cover up to 18 ft., and they will also work under low pressure. The water can be pumped straight into the service, or through a larger main, supplied with laterals, for which proper connections are provided. By screwing down the sprinklers the pipes can be converted into a conduit for supplying water up or down hill.

A wide range of hose sprinklers is available. The "Pep" has one large hole that will not clog, and is specially adapted for use where there is sediment in the water, while the "Butterfly" sprinkler is designed to prevent the jamming of the fly, and it serves this purpose well. The "Kerotin" spray pump is a handy device for use in small orchards and flower gardens. It is double acting and has polished brass barrel, brass ball valves, and is suitable for use with standard kerosene tin or ordinary bucket.

Farleigh, Nettheim & Co., of 80 Clarence-street, Sydney, hold a wide variety of garden tools, including Skelton's hoes, forks, spades and shovels, with short and long handles. From another maker come lower-priced weed forks and trowels in sets of two, and Dutch hoes are on hand in a variety of sizes. Garden rakes and hedge shears of different brands can be supplied with and without handles, and hedge shears are in variety, including lighter makes for women's use.

W. S. Friend & Co., of 113 York-street, Sydney, declare that, owing to the bounteous rains, the season has been a record for the sale of lawn-mowers, pruning shears, and all similar garden tools. Made for cutting grass borders, a tool having a half-moon shaped blade and a long handle has become popular, and a steady demand is reported. French-made pruning shears are in a variety of styles and sizes, and there is also a wide showing of lower-grade European makes. For the orchardist there is a variety of pruning saws, the bow-backed design, as used by Government experts in giving demonstrations, being featured, and in addition double-edged and curved saws are available. Spades and forks are varied as to size, Parker and other well-known names being prominent. As its name indicates, the lawn broom-rake serves a double purpose. The teeth are made of fine wire, closely fitted together, and are turned upward so as to avoid sticking in the ground. They gather up leaves and small rubbish usually left behind by the ordinary rakes with teeth wider apart. Available also are rakes varying from light flower garden size to those with heavy prongs for orchard work. Hoes for garden and orchard vary in size from 4 to 10 in. The "Magic Weeder," with three curved prongs, is useful for work in flower gardens. Another handy tool is the "Daisy" weed grubber, specially

made for levering out deep-rooted grasses and other pests. It has a strong handle and two stout prongs, the whole being convex shape to give greater leverage, a flat knob below the prongs serving as a fulcrum. A combined hoe and rake is available, with and without handle.

Spraying pumps are in great variety, some being suitable for work with a bucket, while others have a knapsack in which the mixture is placed so that it may be carried on the back. Useful is the long, telescopic pump, with which a good length of rubber hose is provided. With this device the operator can rain the spraying mixture upon any part of the highest fruit tree. The "Ladywood" is a double-action pump, which plays a constant stream upon any part desired, and is provided with a knapsack. "Harbas" ready-mixed oil is available in tins of various sizes, and the "Harola" lime and sulphur spraying solution is also on hand.

Grimley Ltd., of Monarch House, Broadway, Sydney, stock all the well-known brands of border and digging forks, hoes and spades, including Tyzack's, Brown's, Brades', and other makes, and these with and without handles. Rakes are also in stock, a speciality being the firm's own "Monarch" brand, the size ranging from 10 to 16 tooth. Chipping and garden hoes and combination hoes and rakes are stocked in a variety of sizes, with and without handles. Spraying pumps for use with buckets and knapsacks are to be had in all the best-known brands, local and imported.

Lawn-mowers are headed by the firm's own "Monarch" brand, both plain and with ball bearings. A five-blade machine, it can be set to cut very low if desired, and it is fitted with 8 in. driving wheels.

S. Hoffnung & Co. Ltd., of 163 Pitt-street, Sydney, stock all the leading brands of lawn-mowers, including the "Green Mountain," "Austral," "Sterling," and other makes.

The "Norcross" midget weeder is a sturdily built little tool with three prongs, which can be used in flowers gardens and shrubberies where a larger tool would be an inconvenience. The special purpose of the "Little Giant" corn hook is the cutting suckers in maize fields, but it is handy among weeds in the garden and orchard.

Border grass shears are available with and without wheels, the long handles making it easy to cut the borders without stooping, though the wheel is not of much service except on a well-made path.

Special among the sprayers is the "Rega" A and B, with new patent devices by means of which the leaves can be sprayed below as well as above. The machine is an Australian product, and is patented in this country as well as overseas. The low-priced "Dan" bucket spray is a handy apparatus with several advantages to its credit.

A full range of shears for cutting grass and pruning flowers and fruit trees is carried. The grass shears have bent and straight handles, and those for pruning rose bushes may be had in heavier styles for men and lighter makes for women.

Keep, Macpherson, Ltd., of 252 George-street, Sydney, have a big stock of lawn-mowers, including their own "Dingo" brand. The "Golden Eagle" mower is noteworthy because of its 11 in. driving wheels, making it specially suitable for long buffalo grass and lawns of a springy nature. The "Little Wonder" is a ball-bearing machine, with keen cutting knives. Green's "Silens Messor" is suitable for golf putting greens, bowling greens, and tennis-courts. A roller of suitable weight is attached as well as a metal plate for gathering up the grass, but the greater leverage given by the higher wheels makes this ball-bearing machine easy to drive. The "New Century" is somewhat similar, the blades being made to cut very low.

Garden forks, hoes and spades are stocked in all the leading brands. Small border forks with either short or long handles are on hand, as are the larger sizes, with flat, square, diamond and pointed prongs. Potato forks are a feature. Trenching and draining tools can be had in sizes suitable for the orchard or garden, and of particular interest are the yam spades, in which a big island trade is done, although they are not altogether unknown in Queensland.

All brands of garden hose and fittings are on hand, the Dunlop make being prominent. The sun-proof ribbed hose is featured, and is available in $\frac{1}{2}$ in., $\frac{3}{4}$ in., and 1 in. sizes. All kinds of hose fittings are also available, including the "Clincher," the use of which does away with the necessity for ordinary clamps.

Sprinklers include all the latest makes, and range from the small, handy type to the large "Lark" brand, which covers a diameter of 150 ft. This type is used by the leading golf clubs in Australia.

Different brands of pruning shears are shown, and those that attracted attention were the small sizes for flower gardens. The torpedo hoe, though not a new tool, has not been long on the market. It is a two-edged tool, and can be worked beneath the ground backward and forward.

H. V. McKay Pty. Ltd., of 27-29 George-street West, Sydney, have introduced a number of new implements for use in the orchard besides adding improvements to some of the old makes. A small pony plough, single-furrow, by reason of its size, is a favourite for keeping the ground fallowed between the rows of fruit trees. Another worthy of mention is the "Sunleaf" disc plough, all the levers of which are down instead of up, as is ordinarily the case when the plough is in operation. Thus it is possible to get right under the tree without touching the branches.

Another very useful device for the orchardist is the field sack truck for conveying bags or cases of fruit from one point of the orchard to another.

The "Sunglow" cultivator has come into favour with orchardists and vigneron of late, and the new style differs from the old in that the tines, instead of extending right up to the front, are now confined to the rear, a strong bar running across the centre. The change means a better jump when a root or stump is struck. A small size is made for orchardists.

The "Sunpearl" disc cultivator is made for breaking down ploughed ground, and by a simple movement it can be made to clean two rows at the one time.

The diamond set harrow is bored at each end, so that when the tines are worn on one side the draw-bars can be taken off and attached to the opposite end, thus putting the wear on the other side of the tines. Spring washers are placed under every nut to prevent their being lost.

Scott, Henderson & Co., of 49-53 Young-street, Sydney, are distributors of the "Coldwell" lawn-mower, made by the Coldwell Lawn-mower Co., Newburgh, N.Y., U.S.A. Two types of machine are made by the company, one being the English, or low-cut, and the other the American, or high-cut. In both a wide range of styles and sizes is available. The latest to be added to the list is a new de luxe mower fitted with self-lubricating roller bearings. Hitherto confined to the higher-priced machines, roller bearings are now applied to those of lower cost.

Another type worthy of note is the trimmer, a tool for finishing off borders where the regular mower cannot be used successfully, and it is desired to do away with hand shears. The blades are 8 in. long.

Smith, Copeland & Co. Ltd., of 33-37 Regent-street, Sydney, have available fumigation tents for the use of orchardists. Made from specially woven calico, they prevent the escape of the spray and allow proper treatment of the tree. For use on lawns a swinging hammock with shelters at the top and back, makes a comfortable resting-place, and a wide variety of garden seats can be obtained, together with canvas camping tools, canvas chairs and hammocks.

Swans Ltd., of 410-12 Elizabeth-street, Sydney, offer a handy sprinkler in the form of a perforated bar placed across the nozzle, the strength of the shower being regulated by moving the bar across the nozzle to the desired position. The "Handy" sprinkler is in the shape of a semi-circle, and the "Bartlett" can be fixed to send the shower along a narrow strip or in a circle. The "Clincher" hose unions permit of the joining of hose by fixing the attachment to the nozzle, and the hose can be easily taken apart.

The "Border" sprays are made for attaching to galvanised iron pipes, and the spray can be directed at different angles by turning the pipe around in the supports. This makes it possible for the border to be sprayed without the water being wasted on the path. A gentle mist can be shed at a constant degree of strength, and this makes the sprays suitable for seed beds, ferneries and other places where a light fall is required.

Melbourne

Blockey, Stone & Co. Pty. Ltd., of 268a Lonsdale-street, Melbourne, offer a full range of farm and garden tools. Special attention has been given to the supply of spray pumps and syringes, which are obtainable in a number of good designs; from the small hand syringe up to the fruitgrower's article. A good demand obtains for an efficient bucket pump, and sound sprays of this type are now made to sell at low figures.

An Australian sprayer known as the "Rega" should sell easily this season. Strong and simple in construction, it is fitted with a nozzle which a child can use, and yet gives any sort of flow from a straight jet to the finest mist. This is accomplished by an ingenious form of atomiser. A stock of this line is available for buyers.

Amongst tools for fruitgrowers are a complete assortment of pruning appliances. Secateurs come from Mexeur and Reiser, and in addition a French article is sold in these two patterns. Bleckmann's have several useful secateurs, which are well constructed, and the price is "right." Disston's pruning saws are always kept.

A fine style of lopping shears is displayed of English make; the jaws are shaped to give great leverage without being over heavy. These are supplied in 18 in. and 24 in. handles as well as in the longer-handled design. Grass shears are always in request, and the list here obtainable includes Burgon & Ball's, Ward & Payne's, Bleckmann's, and others.

Spades and forks may be had from Brades, Parkes, Mills and Brown. The various tools supplied by the American Fork & Hoe Co. are all carried. This firm's range provides a selection of forks, rakes and hoes of good repute and, in addition, many special tools which appeal to the gardener. There is, for example, the "Scuffle hoe in several designs, suited to citrus or vine growing districts. A feature is made by the firm of all kinds of slashers, including such makes as the "Gippslander," "Whipper," "Clipper," and others. Norcross cultivators are still going well, and a fresh shipment has been opened.

For the coming season this firm will have an interesting lot of hose fittings, sprinklers, and sprays.

A prominent selection will be Pope's Australian goods, which seem to have suited the trade admirably. Garden hose will be featured largely, and in view of the demand for lawn mowers some new and special models will shortly be shown.

Briscoe & Co. Ltd., of 391 Little Collins-street, Melbourne, have stocks of all garden appliances. The regular patterns of garden spades and forks are constantly on hand, Brades, Parkes, Skelton and Brown being among the British makers represented. Increasingly popular are Skelton's floral sets, comprising a hoe, fork and rake. Made especially for women, they can do good work in men's hands, although comparatively light.

Among rakes and hoes of every kind a bamboo lawn rake might be singled out as a useful newcomer. This rake is quite effective for clearing the plot of leaves or dead grass without injuring the lawn. It is finding good demand at this time of the year.

In addition to grass and hedge shears there are several good kinds for borders and lopping. Seymour Smith's spring hand shears are also a most useful type. Following the success of the serrated-edged knife, the Burns company are marketing grass shears of this pattern. They are credited with clean, neat cutting, and are said to retain their edge for a long time.

Every garden fork is available—weed, border, digging, spading, ensilage and barley forks being a few of these actually seen. An Australian hand-weeding fork is really good. It is strongly made and the price is "right."

Garden syringes of the conventional brass pattern are in several sizes, while the "Simplex" spray is a useful line, supplied for bucket, bottle, or hand use.

Gardening gloves should be remembered. A wide range is offered nowadays—canvas, canvas and leather, chrome, basil, soft brown, and crocodile. For lemon picking extra long leather gloves are the correct thing. They fit above the elbow, and yet do not impede the worker.

A shipment of secateurs includes Reisers' and Mexeurs' make, both of which are good. These are obtainable from the small rose pruner to the long-handled design for large orchards.

Disston's and Wingfield Rowbotham's pruning saws are in all the regular patterns.

The firm are agents for "Cyanogas," a substance which, besides being an effective rabbit destroyer, is finding wide use also for citrus fumigation. Scale, orange bug, and the usual citrus parasites are quite easily killed by "Cyanogas." It is put up in containers from 1 lb. to 100 lb., and as it is a solid, giving out its deadly properties very slowly, it is safe in use and easily controlled.

A special steel wheelbarrow, Australian made, is being distributed by the company. This is all steel, light, but of great strength, and actually cheaper than the wooden type of barrow. The production of this line in quantity has enabled it to be turned out in standard sizes. The barrow is well balanced and finds buyers wherever displayed.

John Danks & Son Pty. Ltd., of 391-403 Bourke-street, Melbourne, carry a most complete stock of garden and other tools, including all orchard supplies. In their own factory a range of brass fittings and appliances for all purposes are made, covering all needs in this direction. Hose nozzles, sprays, tap unions, roses, and a host of similar connections are listed in their catalogues.

Many special sprinklers are carried, such as the "Daisy," "Apex," "Little Hero," "New Perfection," and others, all of which meet particular needs or throw a certain type of spray. For lawns and

greens generally, a "Daspyl" trolley is both practical and efficient; it enables sprinklers to be moved from place to place at will. A 2-wheel sprinkler stand under the same brand is useful for any style of sprinkler device. In this section also is the "Seton" hoseless spray nozzle, which is suited to lawns and grass plots of limited size. Another pattern is the "Universal" director, which swivels in any direction. There are several good sprays and rain maker systems, which give effective watering over a large area.

One of the handiest things for the farm or garden is the "Kerotin" spray pump. Australian made, this has gained much popularity as an inexpensive and strong little appliance. Garden syringes come in this section also. Amongst a selection of lawn-mowers are such makes as the "Pennsylvania," "Regina," and others, in all sizes. The "Pennsylvania" lawn-trimmer is quite a good idea. It supplies a mower to take the place of the tedious hand shears, and enables the edge of the lawn to be cut after mowing, running to within half an inch of tree trunks.

A big assortment of spades, forks, hoes and rakes is always stocked, as well as special grafting and edging tools. Mention should be made of the favourite "Norcross" cultivators, which are deservedly good sellers. A selection is also offered of wheelbarrows and water-barrows—handy lines at reasonable prices.

Hawkes Bros. Pty. Ltd., of Geelong and Melbourne, carry a large range of tools for the gardener and orchardist. Fresh supplies of secateurs are just opened up, in Continental and American brands. Amongst these are Mexeur's, Reiser's, and Boker's. In this department also are pruning appliances of all kinds, one attractive line being a nickel-plated shear for ladies' use, suitable for roses.

Branch cutters are in good variety, several reliable makes being featured, such as the genuine Bosquet and Vernet, as well as Boker's, also Bleckmann's, Bosquet and Vernet patterns. A range of lopping shears is included in this section, the makers represented being Clyde, Ward & Payne, and Boker. Amongst a selection of pruning saws Disston's "Crescent," and "Duplex" patterns are prominent.

In garden tools leading brands are those of Parkes, Skelton, and Brades, in all kinds of spades and forks; well-known English makes of hoes and rakes, and Wallingford in American lines. Useful articles for the garden are "Daisy" grubbers and dock lifters; these have always sold well, being useful and quite moderate in price. A very good rake for the lawn after cutting is known as the "Springbok."

A selection of lawn-mowers includes the British "Qualcast," a mower which has come greatly into favour. Both C and D models are on hand. Amongst the other brands are the "New Henley," "New Crescent," "Victoria" and "Philadelphia," both roller and non-roller bearing patterns. The Henley people have introduced a new mower, the "Pathfinder," which has many fine features. This is fitted with five blades, and "Timken" roller bearings. Other lawn appliances include grass and lawn shears, edging knives with or without handles, and grass catchers.

The firm recommend with confidence the "Corio" garden hose, stocked in $\frac{1}{2}$ in., $\frac{3}{4}$ in., and 1 in. sizes. This line is made to the firm's own specifications and is of great strength and durability.

J. S. Kidd & Co. Pty. Ltd., of 410-12 Lonsdale-street, Melbourne, carry a large range of garden tools and other supplies. The reliable English makes of spades and forks in all sizes are constantly arriving. These include Brades and Parkes, while cheaper lines come from J. Brown & Sons. The last-

mentioned have succeeded in placing a remarkably good type of implement on the market at a quite reasonable figure.

Amongst hoes and rakes of all kinds, Tyzack's "Port-Arlington" onion hoes are recommended. Onion hoe blades are also to be had. For special uses Tyzack's and Brades' rabbiters' hoes are excellent. A thistle hoe, which sells exceptionally well, comes from the same manufacturers.

A shipment of Norcross cultivators has arrived in all sizes. This type sells readily; while the "Outukum" weeder is a handy tool which lifts the "enemy" from the lawn without injuring the grass.

Amongst a variety of sprays and garden syringes are several useful lines. A barrel syringe is obtainable at a very low cost. The finish is a dark green stove-enamel. It looks well, and sold freely throughout the season. In the bigger sprayers a "Milward" pattern is confidently recommended. Made in two sizes, it is strong, and simple to use.

Pruning operations loom ahead, and an assortment of secateurs and other appliances is advisable. Reiser's and Mexeur's secateurs are kept in the genuine article, as well as Seymour Smith's and Continental lines at low prices. All spares may be obtained.

Each year sees an increase in the sale of lawn-mowers. For the coming spring stocks will now be available of "Philadelphia," "Apollo," and "Diana" mowers. A special type, the "Arcade," is made to the firm's order, and comes in two qualities. In ordinary bearings the "Arcade" mower has 8 in. wheels and five blades. A ball-bearing model has proved most reliable, a machine with five blades and 9 in. wheels.

Amongst a host of accessories, hedge and border shears, grass shears, edging tools, grafting and draining implements are all stocked. Again in hose fittings, sprinklers, and sprays, a number of excellent lines is offered. Pope's fittings are Australian made and deserving of support. The quality and finish are beyond reproach. The "Dewplex" spray is another type which found many friends last season and will again be stocked.

The firm will be marketing a new brand of garden hose under the "Arcadia" brand. This is of British make, corrugated, ribbed, and moulded. Guaranteed three-ply, it is fitted with a hard-wearing inner fabric. It will be sold in reels of 500 ft., in red or black finish.

McPherson's Pty. Ltd., of 582 Collins-street, Melbourne, have an important department devoted to the needs of the farm, orchard, and garden. They recommend for orchardists the "Auto Spray" pump for all spraying purposes, several different sizes and types being available. The No. 1 "Auto Spray" is one of the most useful, and has a large sale. Weighing only 36 lb. loaded, it is able to do a deal of work without re-charging, and yet is not too heavy in use. The same make in No. 5 is of the knapsack pattern, entirely of brass, and most convenient in that it enables the operator to reach every corner of the job without effort. There are various other designs, including the hand spray No. 26 for small gardens.

Complete lines are stocked of English and American spades, forks, and hoes; also a number of draining tools, cultivators, and special forks and hoes for different crops. In pruning appliances the firm have everything required. Secateurs of the Reiser pattern are a reliable and, perhaps, one of the best selling lines. The "Rockdale" branch cutters have handles 26 in. and 41 in. in length, and are strongly made. Disston's pruning saws in all designs are shown, their "Orchard" pruning hook and saw combination being one of the most handy.

Lawn-mowers stocked include the English "Qualcast," and in American the "Philadelphia" range and others. A host of garden sundries such as

sprinklers, brassware, hose fittings of all kinds, racks and reels are obtainable. For the farm or orchard the firm show several wheelbarrows, and waterbarrows, the steel types being now favoured for their lightness and strength. For irrigation work earth scoops are supplied in a number of sizes. In this section mention should be made of the "Gay" rotary sprinkler, one of the modern "rainmaker" ideas which gives a wide distribution of fine spray for growers. It is economical in water, and covers the area very evenly. The volume, moreover, may be easily and accurately regulated. Scarcely any labour is required, and the appliance practically runs itself after adjustment.

Thos. Mitchell & Co. Pty. Ltd., of 360 Lonsdale-street, Melbourne, make a feature of the section devoted to garden implements and tools. In addition to the well-known British makes, such as Parkes' and Brades', a number of other brands are always stocked, including Brown's, which meet the demand for cheaper types for home gardens. This applies to spades, forks, and shovels. Rakes and hoes, as well as manure forks, digging forks and other special implements are obtainable in American patterns. The selection is extensive, and covers every class of trade requirement.

From W. A. Tyzack & Co. come scythes, reaping hooks, hedge shears, border shears, and similar appliances; for all these tools the firm maintain supplies of handles and parts. Mattocks and slashers of all designs and fern hooks are necessary lines for the country districts, and may be ordered from full stocks.

The firm report that lawn-mowers are still being inquired for in many areas; they recommend the "Victor," a mower which is built to their specifications, and has proved perfectly reliable under Australian conditions. Makes, such as the "Philadelphia" and other familiar models are also available. Importance is placed on the requirements of the trade for spares for mowers; any parts may be obtained. It should be stated that ball-bearing patterns are stocked as well as the ordinary; it is found that many users still prefer the older type.

Other garden appliances kept are rubber hose in all qualities, as well as all fittings, reels and sprinklers, while as manufacturers of galvanised iron goods the firm are specially equipped for the supply of watering cans, which are made in a large range of sizes.

George Russell Pty. Ltd., of 452 Flinders-street, Melbourne, carry full stocks of garden tools. In this department all spades and forks are of leading English brands, such as Parkes' and Brades', and also in cheaper lines, including Potts' and Brown's. For the womenfolk a light pattern is obtainable in sets.

The pruning season is at hand, and stocks are now opened of pruning saws, Disston's being recommended. A selection of secateurs includes Mexeur and Reiser (Continental) and Pexto and Seymour Smith (American). Of garden shears the principal brands are those of Ward & Payne, and the Burns shear with a special cutting edge. Whitehouse hedge shears are on hand, and also the long-handled border shears with wheel.

Mention should be made of Norcross cultivators, in three and five prong designs; these will always sell. All kinds of sprayers, from the small brass syringe or bucket spray to the orchard type, are constantly coming to hand.

In garden accessories there are the different brass fittings for hose of all sizes, sprinklers and rainmakers, as well as rubber hose in several grades. Gloves are in a useful assortment, the plain cotton sort selling readily. Those of cotton and leather combined are often preferred, for their flexibility and wearing qualities. Gloves of chamois or basil are available in a good selection.

Timbers of the Empire

A display, designed to draw attention to the useful timbers grown in commercial quantities in the overseas parts of the Empire, was recently staged at the Imperial Institute, London. Many such timbers, chiefly hardwoods, are little known outside the trade, and some have not yet been marketed in Great Britain. The institute brought together samples of both the better-known and less-known kinds. Cards were fixed to them, giving brief descriptions, with particulars of their uses and cost. Furniture, joinery, musical instruments, and motor bodies made from Empire timber were also shown.

Among noteworthy exhibits were doors in Indian timbers, designed by Sir Herbert Baker for India House (Holloway Brothers); a parquet flooring in Australian silky oak (Howard Brothers); a billiards table in Indian and Sapele mahogany (Burroughes and Watts); the first examples of veneers cut in Australia and marketed in this country in Australian blackwood silky oak (Anthony Gibbs & Sons); a quarter-grand pianoforte in Australian walnut (John Broadwood & Sons Ltd.); and an automatic gramophone in Indian laurel (the Gramophone Co.).

Opening the exhibition, Lord Lovat said he doubted whether there was any product grown in the Empire which should be of more interest to those who concerned themselves about the Empire. The timber lands of the Empire were of enormous extent—about 1,200,000,000 acres. There was grave anxiety on the subject of the reserves of virgin softwood timber, and, as time went on, there would be more and more demand for substitutes, which would very often be found among the substitute hardwood timbers of the Empire.

Canadian Minerals

(From "The Hardware Trade Journal.")

The mineral resources of Canada are being tapped to some purpose. The official estimate of the Dominion Bureau of Statistics of mineral production in 1927 shows a new high record, the total value of the output being 241,773,000 dollars, or a gain of 1½ million dollars over 1926. Among the sections with new output records were gold, copper, lead, and zinc; and increased production, in comparison with the totals for the previous year, was noted in cobalt, copper, lead, nickel, platinum metals, zinc, petroleum, pyrites, clay products, among other products. Notwithstanding the new high level of output, however, metals showed a loss in aggregate value on the comparison of 1926 and 1927, due to the prevailing lower range of prices for copper, lead, zinc, and silver. Copper, mostly from the treatment of the nickel-copper ores mined near Sudbury, in Ontario, and from the copper-gold ores of British Columbia and Quebec, reached an output of 140,223,717 lb. in 1927. British Columbia mines yielded 91,910,274 lb.; Ontario, 45,652,721 lb.; and Quebec 2,660,722 lb. Lead output increased to a new record at 308,742,826 lb., worth 16,456,877 dollars, and zinc also rose to 160,108,800 lb., thus exceeding the record set last year. Mr. S. J. Cook, chief of the mining and metallurgical branch of the bureau, speaks of the "magnificent progress made by the mining industry of the Dominion," and adds that never has the outlook for the future appeared brighter. In the light of the advances made during the past two years, and considering particularly the extent to which preparatory work was done in so many fields during the past year, he would be a pessimist, indeed, who could not see a brilliant future immediately ahead in Canada's mining industry.

Electrical Notes from New Zealand

(Specially Contributed.)

Southland Power Board has achieved two of its main ambitions—the connection of 1000 electric ranges, and a total of 8000 consumers.

Wanganui County Council will undertake a load survey of the county in connection with the proposed North Auckland power scheme.

Waitemata Power Board's revenue for the four months ended February 29 amounted to £45,600, while the number of consumers totalled 5391.

Horowhenua Power Board reports that to the end of February nearly £37,200 had been received for meter rents and electricity, representing an advance of about £6000 over the same period for last year.

Wairere Power Board has been advised that the Government will not grant permission to extend the headworks at Wairere Falls. In consequence, the Ohura County Council will require to take power from the Waikato supply.

The following loans have been authorised for electrical works:—Otago Power Board, construction supplementary loan, 1928, £6600; Franklin Power Board, supplementary loan, 1928, £20,000; Dunedin City Council, Waipori dam construction loan, 1928, £225,000.

The Public Works Department having taken over from Armstrong, Whitworth & Co. Ltd. the contract for the construction of the Arapuni power station on the Waikato River, is pushing ahead with the work. Concrete for the foundation portions, below the level of the river bed, is now being laid.

The past financial year has been exceptionally profitable for the Wellington City electricity department, for, as a result of dry-weather shortage of supply from the Mangahao hydro-electrical station, the department supplied a very considerable amount of power to the Government, from the municipal steam-driven generating station at Evans Bay, and largely reduced its purchases of bulk power from the Government. The net surplus for the past year was £50,960, as against £23,941 for the previous year, an increase of £27,019.

Wanganui-Rangitikei Power Board is carrying on an active advertising campaign in connection with electric ranges and hot-water services, and an electric kitchen which can be thrown open to the board room for cooking demonstrations has been provided in the office buildings. A radio set conveys to the board room the cooking lectures broadcasted from Wellington, and demonstrations are arranged to coincide with these lectures. Ranges are sold on easy terms of £1 deposit and monthly instalments of 10/-, with no interest on unpaid balance. The charge for electricity for cooking is 1½d. per unit.

An indication of the demand for power which might be expected by the time that the Waikaremoana supply is available was given by Mr. H. R. Templin, consulting engineer to the Poverty Bay Power Board, who has stated that within the past twelve months the consumption had been increased by 70 per cent., while a further increase would certainly be shown with the coming winter.

The board has decided to make a flat rate of 4d. per unit for all power for farm purposes, this representing a substantial reduction. The finance committee reports having sanctioned the erection of a line from Waimata to Whangara, this marking the first extension to the East Coast district.

Ashburton Power Board's four years' record of business shows very satisfactory results. The board has spent £321,000 on its system, and now operates 805 miles of line and is supplying 2950 consumers. The original scheme provided for 340 miles of line and 2500 consumers. The board's maximum demand has risen from 160 kw. to 1280 kw., and it is expected that 1400 kw. will be reached in May of this year, and 1700 kw. in 1929. An estimate made in 1924 placed the 1929 demand at 600 kw.

The result of the energetic sales of appliances and of good service given to consumers is shown by the growth of the connected load per consumer: in 1924 it was 1.33 kw.; in 1926 2.15 kw.; in 1928, 3.00 kw. Units purchased per consumer have increased from 620 per annum to 1650, while the total revenue has risen from £7496 in 1923-24 to £31,891 in 1926-27, and 1927-28 is estimated at £36,000.

The board has received sanction from the Local Government Loans Board to raise a loan of £90,000 for further development, subject to the condition that, before spending more than £30,000, it must apply to the Loans Board for further sanction.

A deputation representing all the power supply authorities in Canterbury and North Otago, together with the South Canterbury Chamber of Commerce and the Canterbury Progress League, recently waited on the Minister of Public Works (Mr. K. S. Williams) to urge the speeding up of the proposed Waitaki hydro-electric development.

Mr. E. Hitchcock (general manager, Christchurch municipal electricity department) said there was one aspect of the matter that was causing the city council serious concern, as the city had already had a somewhat bitter experience of power shortage. During the winter of 1926, fortunately a mild one, the Lake Coleridge generating station carried a load in excess of 16,000 kw., or more than 30 per cent. over its normal capacity of 12,000 kw. The output of the station had now been increased to 27,000 kw., and the Government estimated that the power demand would reach this figure in 1931. The deputation, however, considered that it would be exceeded in 1930, or even 1929. The Government estimated an average annual increase in demand of about 13 per cent. for a period of about five years, but the city council had recorded an average annual increase over a period of six years of 18.9 per cent. The demand on the Lake Coleridge station was now five times what it was in 1918. In the last two or three years there had been an amazing development in the domestic load for cooking and heating. Houses were now being built that were completely equipped for electricity supply for all domestic purposes.

The Minister stated that investigations were being made to determine the best site for the power plant, and that he realised the urgency of the case.

MISCELLANEOUS ADVERTISEMENT

NOTICE IS HEREBY GIVEN that the Proprietor of Australian Patent No. 17728, dated 14th day of May, 1923, for "IMPROVEMENTS IN OR IN CONNECTION WITH THE COMBUSTION OF FUEL IN FURNACES," is prepared to satisfy any demand and all requirements of the public respecting the said invention.

Full particulars from P. M. NEWTON, Patent Attorney, C.M.F. Building, 405-7 Collins Street, Melbourne.

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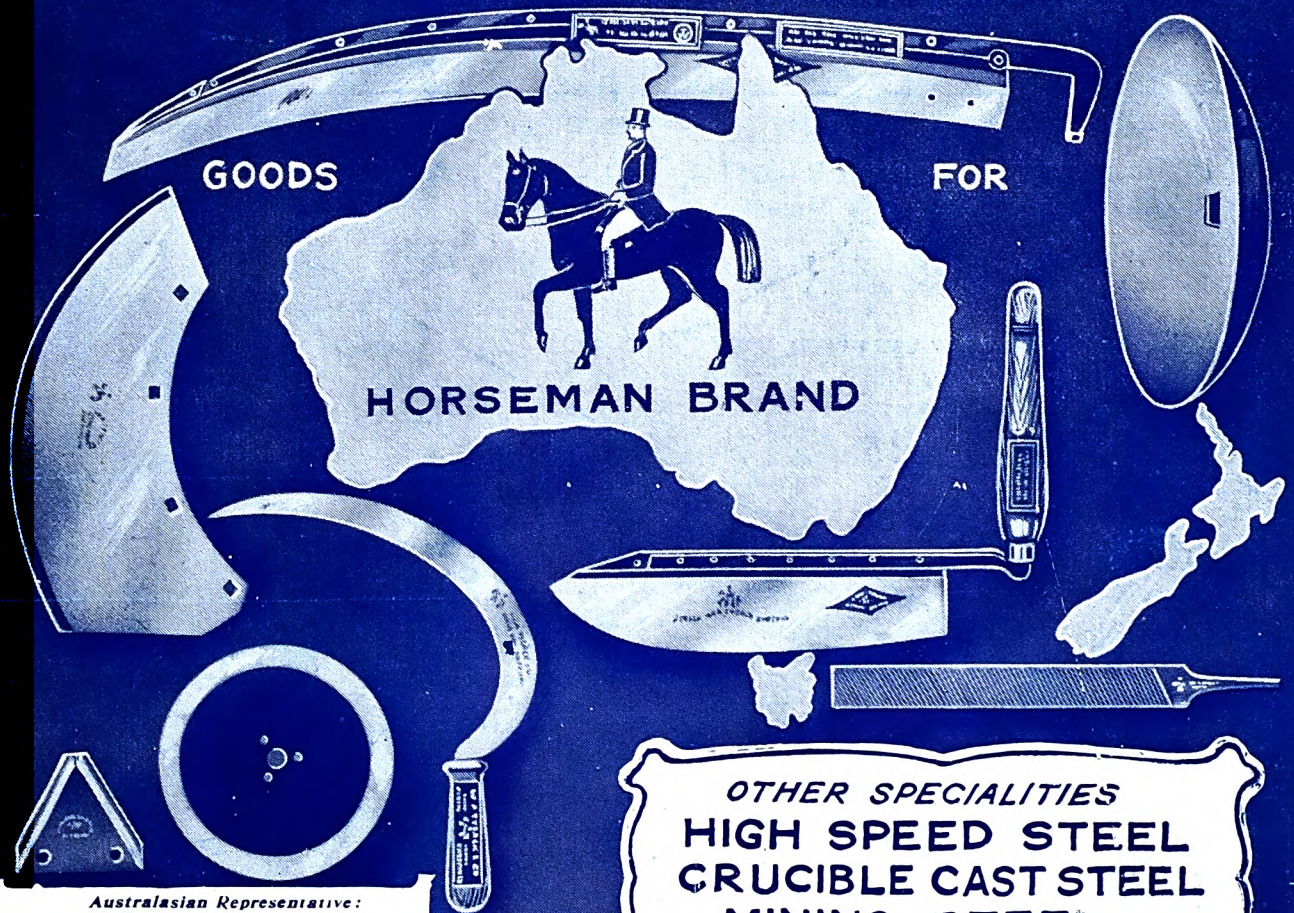
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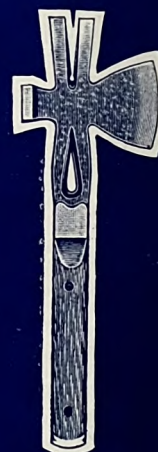
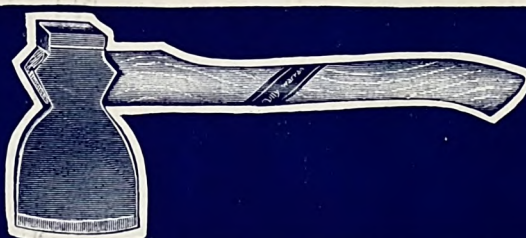
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For 30/- per Annum we will supply (in addition to above) The Ironmonger (London), weekly, and a copy of The Ironmonger Diary. All Post Free. Single copies 1/- each. Subscriptions payable in advance.

Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

Death of Sir Aaron Danks.

Going to press, we were startled by news of the passing of Sir Aaron Turner Danks, of John Danks & Son Pty. Ltd., Melbourne and Sydney. He died at his residence in Canterbury, on June 4, in his sixty-seventh year.



Late Sir Aaron T. Danks

Born at South Melbourne in 1861, the late Sir Aaron joined as a youth the business established by his father, Mr. John Danks, and before long was given a partnership. With the formation of the present company in 1889, he became a director, and since the father's death in 1902 he had been chairman of the board. Beginning as manufacturers of brassware and other metal goods, the firm,

in more recent years, have developed the selling side of the business, and to-day they have fine modern warehouses both in Melbourne and Sydney.

Outside his business, the late Sir Aaron was well known in church and charitable work. For the long period of twenty-three years he was on the committee of the Melbourne Hospital, and part of the time was chairman of that body. Other philanthropic causes received his generous support, both in time and means. It was in this connection that in 1925 he received the honour of Knight Bachelor.

The late Sir Aaron leaves a widow and family of two, a son and a daughter. His elder son died some years ago.

Correction.

In our last issue a note appeared regarding the "Demag" electric hoists, and the headnote (only) referred to them as made in Australia. This was due to mistake or misapprehension. These hoists are really of German manufacture.

No Wonder!

"Why did Jones return the nails to the ironmonger?"

"'Cause the heads were on the wrong end."

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Coupons in South Africa.

The free gift coupon system, says a South African paper, was discussed at a recent meeting of the Border Chamber of Industries, and it was resolved to record a protest against the system, drawing attention to the following reasons:—(1) Advertising free gifts costs more than advertising the commodity itself, as more space is usually taken in drawing attention to the free gift system, and the legitimate charge to the consumer for advertising is therefore increased. (2) The public are not getting full benefit, as the manufacturer has to make allowance for the free gifts, and a large portion of the coupons are never used. (3) There is also the question of the manufacturer, advertising free gifts, entering into competition with the people who are selling similar goods.

Foreign Exchanges

Foreign rates of exchange in London for cable transfer on the centres and dates indicated, compare as follows:—

Par.	—	—	May 21	May 24	May 29	June 4
4.886	New York	Dols to £	4.88½	4.88½	4.88½	4.88½
4.866	Montreal ..	Dols to £	4.88½	4.88½	4.86	4.89½
25.225	Paris	Fros to £	124.02	124.02	124.02	124.15
35.000	Brussels ..	Bels to £	34.99	34.99	34.98	34.98
25.225	Rome	Lire to £	92.69	92.67	92.66	92.67
12.107	Amsterdam	Florin to £	12.10	12.09½	12.09½	12.09½
12.107	Batavia ..	Gul to £	12.11½	12.12	12.12½	12.12
18.159	Stockholm	Kron to £	18.20	18.20	18.20	18.20
18.159	Oslo	Kron to £	18.22	18.23	18.23	18.22
18.159	Copenhagen	Kron to £	18.20	18.20	18.20	18.19
20.43	Berlin	Gmks to £	20.40	20.39	20.39	20.40
24.58	Calcutta ..	Pen to rup	18½/32	18½/32	18	18
24.58	Yokohama	Pen to yen	22½/32	22½	22½	23½/32
*	Hongkong	Pen to dol	25½	25½	25½	25½

* Par. depends on rise and fall in price of Silver.

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Editorial

Tool Steel Yet Again.

Evidence now before us goes to prove that our warning of a few months ago about Continental steel travellers of doubtful character was no mare's nest. Such a traveller has been in Australia recently, and may still be in some part of the Commonwealth or the Dominion. If so, those called upon with offers of tool steel, files, bandsaws, or other similar lines, would be well advised to turn a deaf ear to the voice of the charmer. If the traveller represents a certain brand or works managed professedly by a Parisian firm, he should be shown the door. For, in plain, unvarnished terms, the whole thing is a swindle. We have the names, as well as the address, and are prepared to give these in confidence to any firm interested or involved, with our reasons for stigmatising as fraudulent the people concerned. Here we shall only say that the names of the "managers" has already appeared in connection with Continental steel in different markets, and always with unexpected and unpleasant results.

These questionable practices in relation to tool steel have been exposed again and again in different parts of the world. During the last twenty-six years we ourselves have had knowledge of seven or eight different invasions of Australia and New Zealand—one or both—by travellers who spoke broken English and carried samples of high-grade tool steel. Names and places have changed since 1902. Listed alphabetically, Belgium, France, Germany, Sweden, and Switzerland have all been brought in at different times. And the interests approached on this side of the world have also shown change—the tricksters saw to that. Beginning with the iron-founders and engineering firms, the travellers have gone at other times to other users of tool steel and files—the mining companies, the sugar mills, and even the breweries. But the leopard cannot change his spots. The methods all through have borne a distinct family resemblance. Samples of rare quality are produced and their merits demonstrated by the suave salesman. A trial order for "a few bars" is secured, sometimes by playing off the works manager against the office, and, just by way of record, the traveller writes this order on a sheet of the firm's letter paper and then presents it for signature. The qualities are in metric terms, which the man who orders does not understand, and the man who sells cannot explain or reduce because his knowledge

of English is so limited. His poverty of speech has been painfully or pleasurably apparent all through the negotiations, made, so we have no doubt, for business purposes. The order is signed, and the grateful traveller retires, all sea-dimples and sunshine. Before long come the goods and the bank's demand for payment. Then, in popular phrase, the orderer sits up and takes notice. He is asked to pay for more, sometimes much more, than he believed he had ordered—has committed himself to a quantity of stuff that it will take him years to work off. If, rather than expose his weakness, he accepts the draft and takes delivery of the goods, he has a further shock. Not only is he landed with more of it than he wanted, but the quality of the steel is inferior. Tool steel, costing as much as 3/6 per pound, before the World War, was described by one of the sufferers as "the merest rubbish." It wasn't tool steel at all!

Again and again, to the point of apology, have we dealt with this subject. In 1902, 1908, 1913, 1914, 1922, 1925, and twice within the present year, we have heard and spoken of Continental steel travellers visiting Australia or New Zealand or both; usually after the event but not always so. We have the satisfaction of knowing that our previous warnings put certain firms on their guard and intercepted orders which otherwise might have been placed. But, in spite of all that we and others do or can do, the thing goes on. Continental sharks and sharpers evidently find these British communities "fair game." It is not a pleasant reflection. That business firms should allow themselves to be "taken down" in the manner and to the extent which has been disclosed to us in confidence passes our comprehension. The country visitor in the hands of the city "magsman" is not more lamentable or laughable.

Industrial Arbitration

In the report of the Victorian Chamber of Manufacturers for the year ended March 31 last industrial arbitration, as it manifests itself in actual practice throughout the Commonwealth of Australia, is severely criticised. Here are the exact words:—

"Compulsory arbitration, as it is now in operation in the Commonwealth, has failed lamentably to achieve industrial peace, and it has certainly put a brake on industrial progress. Probably at no time since the operation of the Commonwealth Conciliation and Arbitration Act has there been so much adverse criticism of it as during the last few years, particularly in recent months. Manufacturers, together with other employers, are feeling keenly the effects of a system which has proved unscientific, inequitable, and uneconomic. Very little regard seems to be paid by legislators in industrial courts to the capacity of businesses to stand increased costs of production, and the expectations of trade

unions, which regard the Arbitration Court as a tribunal for increasing wages and shortening hours, are invariably realised to some extent in the artificial 'disputes' that come up for settlement. The consequence is that manufacturing is being crippled in several directions. The position is made worse by the intolerable conduct of the maritime unions in 'holding up' steamers for petty reasons, in defiance of Arbitration Court awards. The question being asked by the general public, which in the end feels the industrial burdens resulting from strikes most acutely, is how long such a state of affairs is to be permitted."

That compulsory arbitration as it works itself out is "a brake on industrial progress" and that "the capacity of businesses to stand increased costs of production" is disregarded in judicial awards constitute serious charges against the system. But they are made deliberately by a responsible body of men and are supported, as we believe, by actual experience. Within the past few years various overseas industrial interests have extended their manufacturing operations to Australia, but others who visited our shores with the thought of doing so have turned away after investigating our conditions of labour. Established industries are hampered by the accumulation and conflict of awards governing employment, and the certainties and uncertainties that await them in a province where there is much law but little law-abiding. The decisions of the bench have borne heavily on certain minor or nascent enterprises, too heavily sometimes. They have ceased to be, and over the whole field order and peace seem as far off as ever.

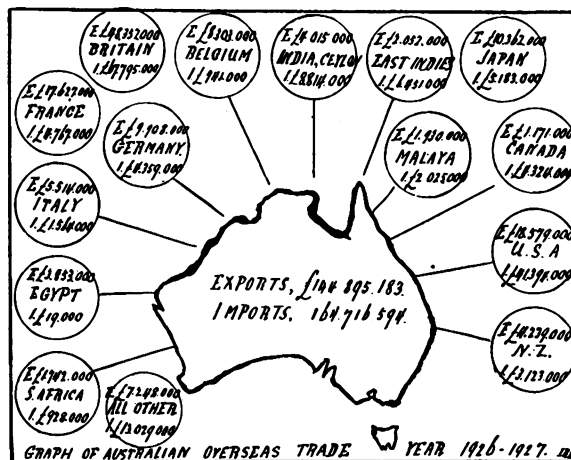
Moved by the evils of the situation the Commonwealth Government have set out to provide a remedy. An Arbitration Act Amendment Bill drafted by the Attorney-General and Minister of Industry (Mr. J. G. Latham) is now before the Parliament at Canberra. While employers generally may be expected to welcome the clauses providing for a secret ballot of all the employees directly concerned before a strike is entered upon, other provisions are not so acceptable. A stinging criticism of the whole measure recently appeared in an Adelaide paper from the pen of Mr. A. A. Simpson, C.M.G., chairman of directors of A. Simpson & Son Ltd. Although Mr. Simpson speaks from the standpoint of South Australia, whose manufacturers admittedly feel the competition of larger and longer-established firms in some of the other States, much of his comment is of general application. He can see no good coming from "conciliation" commissioners not chosen by the parties to the troubles and not sitting in public. As little good does he expect from the proposed boards of reference sitting under the chairmanship of the Industrial Registrar. What he expects, indeed, is further trouble and fresh disputes. Put forward in the interests of industrial friendship, these proposals, in his opinion, will fail of their purpose.

"The truth is that, since compulsory arbitration has become the law of Australia, it is no good utter-

ing 'sob stuff' about 'friendship' and appointing salaried 'conciliators' to preside over a multitude of committees. We employers are sick of being cited to the Arbitration Court, and, then, for the crime of being employers, being 'conciliated' as well. We resent being prosecuted twice over for the same offence. We are quite competent to settle our disputes in conference with employees, but we do not applaud the intervention of civil servants, whose pay and interest may depend upon the continuance of 'conciliation.' Besides the boards of reference, the Bill contains other amendments tending to avoid the consequences of the last constitutional referendum and to destroy the State industrial legislation. Regardless of cost, a whole industrial bureaucracy is to be established. . . ."

Trade of the Commonwealth

The graph hereunder of Australian overseas trade for the year ended June 30, 1927, shows that the



European countries, other than Great Britain, bought much more from us than we bought from them. Thus:—

	Bought of our goods	Sold to us
France	£17,627,000	£4,767,000
Germany	9,908,000	4,359,000
Belgium	8,303,000	941,000
Italy	5,514,000	1,564,000

while on the other hand the United Kingdom sold to us £67,795,000 and bought from us £48,352,000 worth of goods.

The graph shows how we help to feed Africa with our wheat, flour and butter; how Asia helps us with jute, tea, rice and other Indian products; while the manufactured goods of America bought by us far outvalue the raw products they require from us.

It is most interesting to observe how all countries are members one of another, and how the beneficent influence of trade is radiated all over the world. With the exception of New Zealand, practically all the transactions recorded on the graph are settled for in London, the banking centre of the world in the sense that the banks in every country enumerated have branches or agents in that city. Hence the bill of exchange on London can be negotiated anywhere in the world.

Inquiry Column

During the month we have supplied answers to the inquiries indicated below. Firms with whom we have not already communicated who hold any agency connection with the firms, or handle any of the lines mentioned in this section, are invited to furnish us with particulars so that our lists may be complete.

Information Supplied.

Amalgamated Conduits Pty. Ltd.—Address supplied.

Ward & Payne, Sheffield.—Name and address of agent supplied.

"Star" Range.—Name and address of manufacturers supplied.

Laundry Machinery.—Name and address of agents supplied.

"Orion" Stove.—Name and address of manufacturers supplied.

Wire.—Names and addresses of manufacturers in Melbourne supplied.

Tinware.—Names and addresses of manufacturers in Melbourne supplied.

"Faultless" Grip Neck Steel Castors.—Name and address of agent supplied.

Ebbw Vale Steel, Iron & Coal Co. Ltd.—Name and address of agents supplied.

Wynn, Timmins & Co. Ltd., Birmingham.—Name and address of agent supplied.

"Sweepervac" Electric Vacuum Cleaners.—Name and address of agents supplied.

"Grip-O" Dressing for Machine Belting.—Name and address of importer supplied.

Ewbank Steel Spikes.—Names and addresses of manufacturers and agents supplied.

Three-in-One Oil Co., New York City, U.S.A.—Name and address of agents supplied.

Wm. Hunt & Sons, The Brades Ltd., near Birmingham.—Name and address of agent supplied.

Henry G. Thompson & Co., New Haven, Conn., U.S.A. ("Milford" hack saw blades).—Name and address of agents supplied.

Information Wanted.

Union Lock Co., Willenhall.—Name and address of agent wanted.

Palnut Co. Ltd., London.—Name and address of agents wanted.

"G. & M." Pruning Shears.—Name and address of manufacturer wanted.

Celluloid in Sheets.—Name and address of Australian manufacturer wanted.

"Hygienol" Disinfectant.—Name and address of manufacturers or agents wanted.

"Woodlock" Casement Stays.—Name and address of manufacturer or agent wanted.

Evans Spring-making Machine (Philadelphia).—Name and address of agent wanted.

H. C. Slingsby, London (ladders and trucks, etc.).—Name and address of agent wanted.

Griswold Mfg. Co., Erie, Pa., U.S.A. (kitchen utensils).—Name and address of agent wanted.

LEGAL INQUIRY

Hire Purchase Agreements.

If a customer returns furniture on hire, can you press for the arrears of hire? Also, if you seize back, can you press for arrears of hire?

A.—The owner is entitled to the arrears of hire up to the time the goods are returned or seized, and can sue for them.

Correspondence

For this column we welcome contributions on any matter of trade concern. Letters may be published anonymously, but in every case the name and address of the writer must be disclosed to the Editor. We do not necessarily indorse the opinions expressed by any correspondent.

A Question of Shortage.

To the Editor, "Hardware and Machinery."

Dear Sir,—May I ask your opinion on the following matter?

I indented a consignment of goods from England. In checking the invoice I found that certain items were short and made a claim upon the shippers, adding duty and other charges incurred.

The manufacturers who shipped the goods passed me a credit for the shortage but refused to allow anything for duty and charges.

Am I entitled to claim on these? I should value the opinion of any importer who may have had a similar experience.—Yours truly,

No. 468 (29/228).

[Seeing that our correspondent had to pay the duty on the whole of the goods invoiced, some of which were not received, we support his claim for a refund of duty pro rata. Otherwise he will be out of pocket. Clearly, however, it is the Customs Department that ought to make the refund, although the chances of recovery in that quarter may not be very bright. We shall be pleased to know what some of our importing readers have to say.—Ed.]

Personality in the Shop.

In a reference to personality, at the recent meeting of Glasgow ironmongers and their assistants, Mr. R. M. Kirkwood observed that he would rather be "done" in a transaction by a salesman with a gracious and pleasing style than get an extra 2½ per cent. off by a salesman with a disagreeable and nasty manner. Before anyone could sell anything he must first of all sell his personality, and personality might be put down, perhaps, as the salesman's best asset. Mr. Kirkwood laid it down that personality can be acquired, and that as, a general rule, lack of it may be interpreted as sheer mental laziness. Personality was the negation of a loud and rasping voice, domineering manner, and deportment and general loudness; it was gracious and sweet, and drew attention and interest to the man with a personality, while louder and perhaps more distinguished people remained unnoticed. The lecturer also emphasised the importance of a good speaking voice, and urged the wisdom of training when an assistant felt that he failed in that point. All this is very good advice, and those who know the giver of it intimately will agree that Mr. Kirkwood possesses one of the most attractive personalities in the retail hardware trade to-day. In laying down guiding hints for the rising generation he drew from personal and thoroughly practical experience.—"The Hardware Trade Journal."

Sundry Credits

By J. Knibb.

Afford a Ford? A new Ford, I mean. After months of speculation, we now know exactly what the new car is going to cost and whether we can venture to sign on the dotted line. The prices at the Ford works in each State range from £170 to £305 for the different models. Somewhat higher than was anticipated, about £40 more than the old models, but the new Ford is a geared car, and the list prices cover a very complete equipment, with a fifth tyre thrown in. The 30-cwt. truck, also complete in every detail, is to cost £260. Five of the passenger models and a specimen of the new truck were viewed during the month by hundreds of visitors at the Melbourne Town Hall.

* * * *

The World Moves. On its axis and round the sun the world moves. So most of us believe on the authority of science, although some men, it is said, still hold the earth to be flat. But here I refer to something else, to the movement of beliefs and customs, of ideas and institutions. Take, for one thing, the emancipation of woman, the way she is entering one field of endeavour after another, often in face of prejudice from her own sex as well as from the other. In the professions, in municipal and State politics, and even in the pulpit you may find her to-day, and will find her in greater numbers to-morrow. The present lord mayor of Liverpool, the great English port on the Mersey, is a woman, Councillor Miss Margaret Beavan, J.P.

* * * *

Riparian Wrongs. How an accident may affect the course of nature and with it a profitable human industry is shown by a true tale of the British Columbia salmon fisheries. Of the five varieties of Pacific salmon, none is more prized for the table than the fine-flavoured sockeye. The Fraser yielded the most of that species up to 1913, the production every fourth year being from 700,000 to 800,000 cases of forty-eight one-pound tins, say, 11,000 tons of fish. But in 1913 a rock slide filled up a narrow gorge in the river, practically preventing the fish from reaching their spawning grounds, and reducing the catch to 40,000 cases at most in any one year. Fifteen years ago, and the Canadian and American authorities are still discussing the removal of the obstruction!

* * * *

Writ in Water. After serving the Melbourne and Metropolitan Board of Works as secretary for thirty-seven years, Mr. George A. Gibbs has retired. An article which he contributes to an evening paper says that, although the deeds of the board may have been "writ in water," they are yet enduring. The board is now responsible for the water supply and sewerage of an area covering 434 square miles and comprising twenty-one cities, two towns, one shire, and part of thirteen other shires. It has spent over six and a half million pounds on the supply of water to the metropolis, and some nine and a half millions more in providing a sewerage system "second to none in a comparable area." Mr. Gibbs speaks with fervent appreciation of the unpaid services of the members of the board and the technical skill of the various engineers with whom he has been associated.

An American paper which I see has a discursive article by Saunders Norvell, in which, among other things, he deals with a "life" of Benjamin Disraeli, the Earl of Beaconsfield. "Izzy" he insists on calling him, which seems to me as inexcusable as would be my reference to a certain American president as "Old Abner." The writer is very casual. He doesn't know this, and he isn't sure of that, but he succeeds in suggesting several things which are less than complimentary to British institutions. At last, however, he touches firm ground—firm to his own foot. "One thing is certain, and that is, if it had not been for Izzy's other lady friends, he would not have arrived anywhere in politics." Certain is it? I think not. Disraeli owed much to one lady at least, the lady he married. But to say that, without feminine help, a man of his ability and ambition would have got nowhere in politics, is to say what only ignorant and unthinking people will believe. For, whatever his faults and failings, Disraeli was a man of genius. No, Mr. Norvell, if you go on in this fashion, I shall class you with Bill Thompson and the other irresponsibles.

* * * *

The Broad Axe. A wood-chopping competition was recently conducted in Sydney, several "bushmen" attacking hardwood logs—standing upright, tree fashion—for the delectation of the onlookers. One of the local papers speaks of such a chopper wielding the "broad axe." A technical mistake this. As far as size goes, the axe used in such tests of skill is just the ordinary wood axe with a blade about four inches wide. The broad axe, properly so called, is wider of edge and shorter of handle. It is used by wood splitters for trimming railway sleepers and rough-surfaced stock of that character. Years ago I witnessed such a contest, and was amazed at the celerity with which the competitors severed thick logs of hardwood. Now striking downwards and now upwards, they made the chips fly, a clean V cut deepening until the heart of the log was reached. Then a hurried change to the other side, and the operation repeated until the flashing blade bit through, and the upper half of the "tree" fell with a crash. A too-narrow kerf was one man's undoing. He had to widen it out, and was defeated by men of better judgment.

* * * *

A Postal Convenience. From the letters that come under my notice, I find that Australian firms are beginning to adopt the franking machine. Long used in the Dominion of New Zealand, its use in the Commonwealth was recently authorised by the P.M.G. These machines are rented, not sold, and are used under guarantees and safeguards. Having installed one of them, the firm concerned, instead of attaching adhesive stamps to their letters as hitherto, pass them through the machine, which stamps them "postage paid 1½d." (or whatever it may be), and at the same time records the transaction on a lock-fast ribbon which the postal authorities examine periodically and collect the money represented, much as other people do with electric current or water used in the garden. The frank stamp is of reddish colour, a shade smaller than the adhesive article, and the indications are that the letter is date-stamped with or without advertising matter all at the one operation. The post office is saved the trouble of impressing its date stamp, and the lessee of the machine may, by arrangement, employ the left-hand upper corner of the envelope for publicity purposes. "Sweet are the uses of advertisement."

Novelties and New Samples

Locks and Latches.

Colin Maxwell & Co., 375 Kent-street, Sydney, have been appointed Australasian representatives for C. E. Schulte, Velbert, Germany, manufacturer of night latches, hasps and staples, automobile door locks and handle combinations. Catalogues and samples have arrived showing a great variety of styles. The padlocks are mounted in dozens of attractive steel show panels which are bordered with polished brass and on which is prominently displayed the brand "C.E.S."

American Padlocks.

Mr. C. E. Mayo, of 209a Castlereagh-street, Sydney, has received a sample range of "Master Junior" padlocks from his principals, the Master Lock Co., Milwaukee, Wis., U.S.A. Instead of the twenty plates of cold rolled steel previously utilised in the laminated body, the new line shows only seventeen which, when riveted together with six rivets under fifty tons pressure, obviously gives a smaller lock enabling it to be sold at a lower price. The shackle is made from $\frac{1}{2}$ in. high carbon steel and is permanently rust-proofed by the cadmium-electro process. Each half-dozen padlocks are packed in attractive three-colour display boxes with neat space provided for marking, while underneath the carton is a sturdy easel which tilts the display to "hit the eye."

Extension Step Ladder.

Mr. L. Kennett, of 27 City-road, Darlington, Sydney, has recently placed on the market a lightweight extension step ladder, suitable for home use as well as for tradesmen. Made from strong, well-seasoned timber, the front steps are well fitted and screwed, while the rungs of the back section are wedged, ensuring rigidity. When required as a ladder, the operator raises the back section to the desired height by means of a rope, the extension being held firmly by malleable iron hooks, which are bolted to the front section. The length of the steps vary from 5 to 10 ft., while the extension adds from 3 ft. 6 in. to 8 ft. 6 in.

Shop ladders, trestles, garden seats, wheelbarrows and folding camp chairs are other lines manufactured by Mr. Kennet.

Carded Tools and Hardware.

Cheetham & White Pty. Ltd., of 366 Bourke-street, Melbourne, have received further samples of tools and other hardware lines from Fr. Eduard Engels & Co., Remscheid-Vieringhausen. These comprise some useful carded kitchen sets, tack hammers, and auger bits. There should be a good sale for these lines. This applies also to carded shoemakers' tools, a most handy type; milliners' plyers, and kits of motor tools, bearing scrapers, and similar goods. Amongst other new numbers displayed are steel rules, corkscrews, and glass cutters; besides a range of seven different patterns of locks. This firm are showing perhaps as interesting a range of tools and general ironmongery as could be found. Each shipment finds fresh additions to the list, all presented with an evident consideration for the special needs of this market.

Polish for Motor Cars.

Gibbs, Bright & Co., 37 Pitt-street, Sydney, have been appointed sole distributing agents in Australia for "Shyncar," an Australian-made high-class polish for automobile bodies, made in liquid form and put up in screw-top tins containing three-quarters of an imperial pint. It is claimed for this product that, being free from wax and other deleterious matter, it re-

quires little effort to produce a lustrous surface on even apparently perished paint; that it is particularly effective when used on Duco, Zapon, and similar high-grade finishes as well as paint and varnish. Moreover, when necessary to paint and varnish a car, it is not essential that the old paint be stripped off. Yet another point in its favour is that it cleans and polishes in one operation, effectively removing dirt and grease. To do the job, a small portion of "Shyncar" only is applied with a cloth, rubbed heavily to remove the dirt, lightening the pressure to bring to a gloss, and finished off with a clean dry cloth.

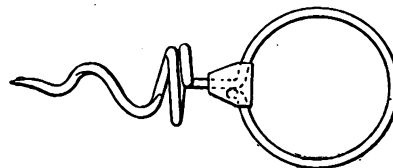
American Innovations.

E. P. Houghton, of 379-81 Kent-street, Sydney, and McEwan House, Little Collins-street, Melbourne, has received from the Norton Co., U.S.A., samples of vitrified alundum stair and floor tiles. The features of the product are their handsome appearance, and lasting properties. Once laid down in public offices and places where there is much traffic, they will last for a great many years. They can be had in square or rectangular patterns, or mixed, and in a variety of colours.

On behalf of the Miller Lock Co., a spare tyre strap and lock for the new Ford car is also being shown. The device takes the form of a steel spring, 32 in. long, shaped to fit over the tyre and wheel, and both the ends have hexagon openings to fit the lower stud on the tyre carrier. The whole is protected by an attractive black moleskin cover, and is fitted with a Miller padlock. The strap fits tightly round the tyre to prevent tampering with the wheel, and a steel strap gives the necessary strength.

Milk Bottle Opener.

From "The Hardware Trade Journal" we reproduce the illustration hereunder. It represents the "Spyro," a handy little device for removing the



card discs or closures from milk bottles and cartons. It is made of stout stainless steel wire twisted in the form of a corkscrew. The point is inserted half-way between the centre and the edge of the disc and revolved until the disc is held between the large turns. Then it is a simple matter to lift out the disc without spilling a drop of the contents, while the disc can be replaced and still prove efficient.

Marketed by Mr. Roger Burgess, of 27 Windsor House, Victoria-street, London, S.W.1, the "Spyro" sells in England at 9d.

Carbon Twist Drills.

Horn & Co., of Bank House, Bank-place, Melbourne, with offices at Sydney and Adelaide, are the authorised agents for "Star" brand carbon twist drills, manufactured by G. A. Hartner, of Ebgingen, Germany. The maker advises that the appointment of a factory representative in the Commonwealth has been rendered necessary by the growing requirements of the territory.

It is true many brands of twist drills are already on these markets, but the "Star" products are said to be making their way. From an inspection of the samples shown, it is evident that a high-grade of tungsten steel is used in the manufacture, the colour,

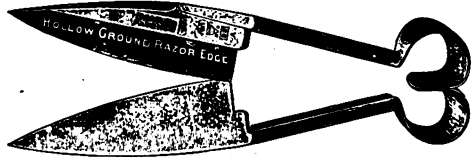
texture and finish being most satisfactory. From the mechanic's point of view what appeals is the ample clearance and keen cutting edge. In operation there is an absence of any tendency to "jamming," the hole being always perfectly clean and smooth.

In a guarantee provided by the maker it is undertaken that the quality will be strictly maintained, while the discount allowed to bona fide distributors is unusually large. The works are equipped for quantity production, which probably accounts for the attractive prices quoted.

English Innovations.

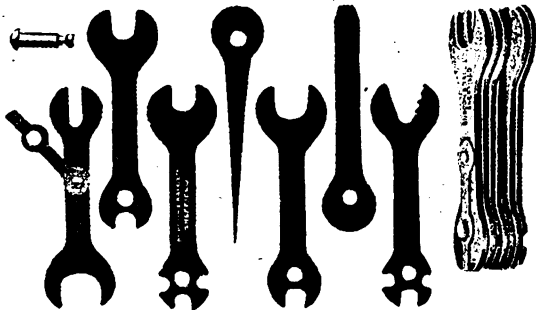
Nelson & Co. Ltd., of 47 King-street, Sydney, are displaying a comprehensive range of force-feed seamless oil cans on behalf of the manufacturers, Joseph Kaye & Sons Ltd., Leeds, England. In all sizes these cans are fitted with a patent automatic slide cover in place of the usual screw cap to the tank. This allows filling the can to capacity without risk of leakage. Control of the oil flow is obtained by the standard cylindrical valve thumb button. The cans are furnished with solid steel riveted handles.

From Burgon & Ball Ltd., La Plata Works, Sheffield, is a full range of sheep and garden shears,



farriers' knives and spanners. Their BB/A sheep shear is now made with a hollow ground razor edge blade. The idea has been patented and it is claimed for it that it eliminates the troublesome job, after each day's work, of recourse to the grindstone to thin down, since fully $\frac{1}{8}$ of an inch can be worn off the blade without getting thicker on the edge than when first used.

Another innovation from these manufacturers is a handy set of spanners, pricker, screwdriver and pipe wrench, so combined that the motorist or mechanic may easily carry them in the pocket. They are held together by a removable fastening pin and are so arranged that any one of the tools can be detached from the bunch. The spanners are so made



as to represent twelve distinct sizes and, although neat and light, are equal to quite heavy work.

A Varied Assortment.

R. V. Bristol & Co. Pty. Ltd., of Danks' Buildings, Melbourne, agents for the K.E.R. brand of Swedish enamelled ware, are displaying full ranges of these goods. This ware is now being offered at a discount which must prove attractive to buyers. It is understood that the rate now listed has never been previously approached for enamelled ware of this quality.

"Rid" aluminium cleaner is a very popular line with the public. The evenness of the wool and free-

dom from filling matter make this cleaner both economical and efficient in use.

Builders' supply houses will be interested in a new D.H. rim lock from Lester & Parton, of Willenhall. A keen price is announced for this lock, and samples just to hand may be inspected.

From The Mandaw Co., of London, come samples of torch cases and batteries. Of British make, these products have been introduced to meet Continental competition, and are yet of excellent quality and finish.

Other interesting goods being shown are "Adjusto-lite" reading lamps, "Autovac" ice cream freezers, "Schwarze" electric bells and buzzers, "Howe" easy can openers, "Venus" knife sharpeners, "Flyded" insect spray, "Economy" paper plates and napkins, "A.J.S." cone reproducers, and many more.

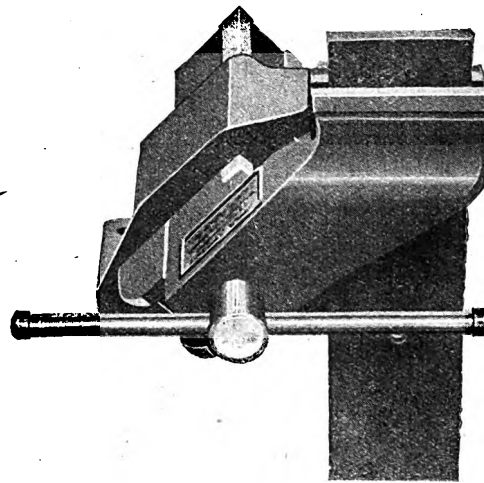
Arrangements have been concluded with several other British, American and Continental manufacturers for the exclusive representation of many new lines, samples of which will be shown at an early date.

Off-set Vices.

A good piece of Australian work is the "Walkess" offset vice, manufactured by Donaldson, Slattery & Co. at their workshops, Nicholson-street, North Fitzroy, Victoria.

This factory is equipped for the production of fine castings, and the new vice bears evidence of the quality of their material. It is made wholly by the firm. The metal is clean and of good grain, while the machining and fitting are perfectly executed. The vice has been designed by the engineer, in the light of long practice in the shop, and is a remarkably efficient tool.

Our illustration shows the vice in use. The special construction allows the entire width of jaw



for gripping any length of work down to floor level. It will be noted that the metal is so distributed as to give great strength and ample surfaces. The fitting is perfect. The jaws are of cast steel, and have knurled gripping faces tempered for hard wear. They are secured to machined seats by screws and are renewable. The screw is machined from solid mild steel bars, with four pitch square thread and is retained in the slide by a strong spring, washers and cotter pin.

A good feature is embodied in the nut. This is a bronze casting, with large thrust surface. A square thread should ensure long life. There are six sizes made, opening $3\frac{1}{2}$, $4\frac{1}{2}$, $5\frac{1}{2}$, 6, $6\frac{1}{2}$ and $7\frac{1}{2}$ in. respectively.

"Quick-Lite" Lamps, Stoves, and Irons.

In our advertising columns will be found an interesting page dealing with the well-known lighting and cooking appliances supplied by the Coleman Quick-Lite Co. of Australia. These are all designed

for the use of ordinary petrol, which is now proved to be one of the best and most efficient fuels for the purpose.

In each case, whether in the lamps, stoves, or irons, the petrol is converted into gas within the appliance itself, thus providing a self-contained unit, which may safely and economically be used in the home or camp. The cleanliness and simplicity of the Coleman method appeals strongly to the housewife, while the attention given to design and finish make each of the various articles an ornament to the home.

The "Quick-Lite" lamp is of 300 candle power. Compared with the ordinary kerosene type the light is more brilliant and the quality perfectly white, steady and clear. With no wick to trim, no chimney to wash, and built of heavily nickelled brass, the lamp is convenient and has an appearance of solidity and strength.

The Coleman lantern is fitted with the same mechanism as the lamp, and gives the same light. It provides a sturdy type of illumination in a portable form. If desired it can stand on the table, or be carried from room to room, while for out-door use it is really invaluable. Perhaps no class of lantern is capable of more varied uses. We have seen them in camps and tents; in fishing boats; in motor cars on night trips, and a dozen other situations. On country roads or farms they are used in emergencies while repairs are made, or for night feeding or care of stock. They are secure against rain or wind, however wild, and they cannot spill the fuel or explode even if tipped over. The lantern has a mica globe with a metal reflector.

The self-heating iron is very popular. It operates without pumping, being fed by gravity from a small font. The capacity is but half a pint of petrol, and yet suffices for the average ironing. A control valve regulates the flow of gas to the burner, which extends the full length of the iron. Thus a steady heat is applied over the entire bottom of the iron, the point being the hottest. It is known as the iron with the "cool, blue handle." As the handle is protected by a two-piece asbestos-lined and ventilated lid, it is claimed that it cannot be over-heated. In summer time the ironing may be done in the coolest room, or on porch or verandah.

A range of cooker stoves completes the list. It may be said that every convenience of a gas cooker is obtained in the furthest out farm by the system here used. One generator supplies gas for all burners in the various models. The construction and finish are excellent. Enamelled plates and nickelled fittings with baked japanned frames ensure cleanliness and give an attractive appearance. A cooker may be had to suit every size of family. There are also several camp stoves, made to fold and pack neatly in a small space, and yet capable of cooking with comfort.

The offices of the Coleman Quick-Lite Co. of Australia are at 185 William-street, Melbourne; 718 Harris-street, Sydney; and 31 Bower Building, Charles-street, Adelaide.

Pottery and Glassware

China Tea-ware.

From E. Brain & Co., the makers of Foley china products, Cheetham & White Pty. Ltd., of Cromwell Buildings, Bourke-street, Melbourne, have recently received samples of several fresh designs in decorative Foley teaware. Amongst these numbers 540 and 543 will be welcomed as quite new to this market. The latter is a specially attractive neat leaf border idea in harmonious tones. Prices are very reasonable.

Good demand is assured for a "cube" morning set, comprising teapot, two cups and saucers, plate, and sugar and cream. This shape is one of those little novelties which quickly catch the eye. It is supplied in any of the well-known Foley decorations, and offers something unusually good for Christmas trade. Buyers should seek it.

"Dura" Cooking Ware.

Alfred Moon & Co. Ltd., of 181 Clarence-street, Sydney, sole Australian agents for Lovatt & Lovatt Ltd., Langley Mill, near Nottingham, England, have received the first sample to arrive in Australia of Langley "Dura" cooking ware. A stewing pan has been selected for this distinction, and a full range of samples selected from the exhibit shown at the British Industries Exhibit in London is expected shortly.

Long known in connection with oven-proof earthenware, the English firm are now producing kitchen utensils strong enough to resist the effects of the open flame.

Earthenware has many advantages for culinary purposes, and we are told that the orders received from all parts of the world at the exhibition largely exceeded anticipations. The agents expect a like experience in Australia.

From Longton Kilns.

Mr. H. E. Uttley, of 119-23 York-street, Sydney, has been appointed Australian representative for William Lowe, Longton, England, on whose behalf he is displaying a comprehensive sample range of teaset, dinnerware and coffee services. The teaset are decorated in many variations of floral, medallion and Crown Derby patterns, while, as an outstanding feature in this section, is a facsimile of a set presented by the manufacturer to Her Majesty Queen Mary, which is artistically decorated with tinted roses, clusters and medallions alternate on a helio. band, while the serrated handle of gold further enhances its beauty. Square saucers and muffins are shown, and these can be supplied with any pattern in the range shown.

Dinnerware embraces a large assortment of decorative ideas in floral, fruit and medallion, while some plates are shown in the new octagon shape. The coffees carry rural scenes as well as other standard decorations, and prices are competitive.

Staffs. and Notts.

Alfred Moon & Co. Ltd., of 181 Clarence-street, Sydney, are showing on behalf of Burgess Bros., Longton, England, samples of earthenware bearing Crown Derby and other rich patterns hitherto used exclusively upon the best china. The features of this departure from the accepted practice are that the price is considerably lower than that charged for china, and the layman is unable to distinguish the difference between the two substances when porcelain is treated in the new way.

On behalf of H. M. Williamson & Sons, also of Longton, a full range of the popular blue bird china, of latest shapes, is shown, full sets of dinners and teas being available. Very smart is another pattern bearing floral festoons, relieved at intervals with sections of deep blue. Another attractive example bears a dark blue border, enriched with a gold scroll, the handles being of gold. A set with a gold rim attracts attention, below this being a pink border, and below this again a rope of brightly coloured flowers.

Samples from Lovatt & Lovatt, Langley Mill, near Nottingham, England, cover leadless glazed vitreous stoneware for domestic use, also the original Langley chocolate ware, and Langley blue stone leadless glaze ware, as well as a large assortment of other patterns and designs. The range includes jugs and teapots, bed warmers, cruet sets, and other domestic appliances.

Personal and Social

Testamentary.

The estate of the late Mr. Charles Frederick Haselgrove, of Haselgrove & Co., ironmongers and importers, Adelaide, who died on February 10 last, has been sworn not to exceed £44,800, and is bequeathed to his widow and family.

Engineering Appointment.

Mr. David Marshall, director of Gibson, Battle (Melb.) Pty. Ltd., was entertained at dinner at Menzies' on May 19 by Melbourne engineers. Appointed resident engineer for Australasia of Sulzer Freres, Winterthur, Switzerland, Mr. Marshall has left Melbourne for Europe to study the latest types of Diesel engines.

Called on the Editor.

Mr. E. A. Kelly, of E. A. & S. D. Kelly, hardware merchants and general importers, 760-62 Hay-street, Perth, called upon us on May 10. With Mrs. Kelly he had been on a visit to Sydney and Melbourne and was on the point of returning. A native of Wick, in Scotland, Mr. Kelly has been in Western Australia for many years.

Municipal Honours.

Mr. W. A. Ditchburn, J.P., who has had wide experience in the hardware and crockery trades, and for the past eight years has been in charge of those departments at the Townsville branch of Burns, Philp & Co. Ltd., was recently elected an alderman of the Townsville City Council. Mr. Ditchburn is also president of the local branch of the Royal Automobile Club of Queensland, to which position he has just been re-elected for the second year.

Bank Director.

Mr. A. A. Simpson has been elected to the board of the Bank of Adelaide Ltd. in succession to Mr. J. R. Fowler, who recently resigned.

Connected all his life with the family firm of A. Simpson & Son Ltd., metal workers and manufacturers, of Adelaide, Mr. Simpson succeeded, in 1917, his father, the late Mr. A. M. Simpson, as chairman of directors. He has been a member of the City Council, and for a term mayor of Adelaide.

Fifty Years of Store Keeping.

A very pleasant function took place at the Katanning Hotel, Western Australia, on the evening of April 18, when at the invitation of Mr. R. L. Richardson, chairman of directors of Richardson & Co. Ltd., a number of friends, managers of the various departments, and managers of the company's branch businesses were present at a dinner, the occasion being the fiftieth anniversary of Mr. Richardson starting work as a lad at Georgetown, in South Australia.

During the whole half-century Mr. Richardson has been engaged in storekeeping; first as a servant of others and subsequently on his own account. He has been in different places and nearly twenty-five years ago acquired the business in Katanning of F. & C. Piesse. Four years ago the present company was formed, with himself as chairman of directors, and to-day there are six branches in the surrounding districts, some of them housed in buildings that would be a credit to any town. At headquarters in Katanning extensive additions are being made to the premises for the better conduct of the general storekeeping business carried on by the company.

Popular Manager Farewelled

Mr. F. W. Jones, who has been manager in Christchurch for over eighteen years of the International Harvester Co. of New Zealand Ltd., was farewelled

on May 14 by over one hundred and fifty representatives of Canterbury farming and industrial interests on the eve of his return to the United States. The function was presided over by Mr. P. F. Ryan, who presented Mr. Jones with a handsomely-bound book, prefaced by an illuminated address, and containing many beautifully photographed views of Christchurch.

Acknowledging this gift and the toast of his health, Mr. Jones referred to the "amazing change" which had taken place in farm implements. They had gone from horses to power, and it was only a question of time before every farm would be producing its own mechanical power, thus saving the human as well as the horse. America, when he got there, would find him a "booster" of New Zealand, with its wonderful soil and splendid opportunities.

This development in the use of power was referred to in the address, which stated that whereas in 1924 only 512 agricultural tractors were at work in the Dominion to-day the number was approximately 3,000.

The opportunity was taken of introducing the new manager, Mr. R. W. Morgan, who, in acknowledging the welcome extended to him, traced the progress of the mechanical reaper.

Appointment to Tariff Board.

In succession to Mr. Herbert R. Brookes, who resigned from the position, another gentleman connected with the metal trades of Australia has been appointed to the Tariff Board of the Commonwealth Government.



Mr. H. E. Guy

The new member is Mr. H. E. Guy, of John Danks & Son Pty. Ltd., Melbourne and Sydney. A native of Victoria and forty-five years of age, Mr. Guy has been connected with the Danks' business since he left school. His uncle, the late Mr. J. H. Guy, was also associated with the business, and at the time of his death in 1919 was a director of the company and manager of the Sydney branch. Advancing step by step, the present Mr. Guy has

been works manager in South Melbourne for some years, and since 1914 a shareholder of the company.

Outside his company's business Mr. Guy has filled various public positions. Some of these have expired by effluxion of time and from some of the others he now retires. He was one of the employers' representatives on the Industrial Commission which visited America last year at the instance of the Federal Government and was unanimously elected chairman of the Commission for the purpose of preparing the report. For four years he was chairman of the iron and steel section of the Victorian Chamber of Manufactures. Since receiving this new appointment he has laid down his duties as chairman of the Made in Australia Council, and in token of their appreciation and good wishes received from the other members of the council a tobacco jar and ash tray made of timber from Central Australia. It also becomes necessary for him to sever his connection with the business of his old firm which he joined twenty-eight years ago. He is a member of the South Melbourne City Council and of the council of the South Melbourne Technical School.

News from Abroad

Direct Process of Steel Manufacture.

According to a recent announcement, the well-known Swedish Fagersta Iron and Steel Works have acquired a licence for the Flodin-Gustafsson method of producing malleable steel directly from iron ore concentrate. This method, which was made known some time ago, may have a revolutionising influence on the technique of steel manufacture.—"Industrial and Commercial South Africa."

Parting Presents.

On leaving Falkirk (in Scotland) for Sydney, Australia, Mr. W. Stewart Halley, formerly on the staff of M. Cockburn & Co., general ironfounders, Gowanbank Foundry, Falkirk, was presented by Falkirk Burgh Liberal Association with a travelling case and a silver cigarette case. He was vice-president of the association. Mr. John Hastings, secretary of Falkirk Iron Co. Ltd., and president of the association, made the presentation.—"The Hardware Trade Journal" of February 24 last.

A Record in Steam Boilers.

The largest boilers yet made in Britain, if not in the world, were recently constructed by William Beardmore & Co. Ltd., Glasgow.

They are for extensions to the Prince's generating station for the Birmingham Electric Supply Department under contract from Simon-Carves Ltd.

There are four of these boilers, each capable of a normal rated evaporation of 150,000 lb. of steam per hour, and 180,000 lb. per hour on overload. They will work at a pressure of 320 lb. per square inch at the super-heater outlet, from feed temperature of 180 deg. Fahr., the final temperature of the steam being 700 deg. Fahr. at the turbine stop valve.

The boilers are fired on the Simon-Carves "Central" system of pulverised coal. The total net effective boiler heating surface is 21,140 sq. ft., of which 4700 sq. ft. is formed by the combustion chamber water-cooling elements.

The British Mission to Australia.

The terms of reference of the mission which is to leave Great Britain for Australia in August are wide. As the Secretary of State for the Dominions announced in the House of Commons the other day, its membership includes prominent business men, migration authorities, etc., and its object is "to confer with the Commonwealth and State Governments, with the Development and Migration Commission, and with leaders of industry and commerce in Australia, on the development of Australian resources, and on any other matters of mutual economic interest to Great Britain and the Commonwealth which may tend to the promotion of trade between the two countries and the increase of settlement in Australia." The task is likely to take some six months, and it will probably be at least another three before any comprehensive report can be looked for. Thus we shall have to wait until about the end of next year for any practical results to be realised.—"The British Export Gazette."

Germany's Steel Industry.

According to the correspondent of the "Times," London, great activity in the export of German steel is predicted as a result of the request of the Verband that its members shall increase the proportion of their production allotted to foreign outlets. Hitherto the works have been reserving 80 per cent. of their output for home buyers, leaving not more than 20 per cent. for export, and in many instances

much less. It is now suggested that not less than 25 per cent., but not more than 28 per cent., should be shipped abroad.

The large concerns have now virtually completed the organisation of their research departments. The United Steel Works has a staff of over 20 engineers in metallurgical research, while the Dye Trust has a laboratory where some 40 chemists are employed. The A.E.G. has a laboratory research institute, while the Siemens Co., and other electrical concerns also run fairly large laboratories. The sum expended by the United Steel Works, the A.E.G., the Siemens and the Dye Trust on work of this nature amounts to £150,000 annually.

Nail Making in South Africa.

Manufacturers as well as merchants will be pleased to learn that Port Elizabeth has a new industry in the shape of a nail factory, situated at Zwartkops, a few miles north of the city, and the machinery installed, which is valued at about £10,000, is capable of turning out nails of $\frac{3}{4}$ in. in length by twenty gauge to any length and gauge. There are altogether fourteen nail machines, a polishing plant, packing plant, and a hardening plant. One of the nail machines, in the hands of an experienced operator, is capable of turning out 350 nails a minute, or $1\frac{1}{2}$ tons a day. The total output of the factory at present is about 3 tons a day. The power for the machines is provided by a 30 h.p. Ruston engine. The staff at present comprises 25, with two engineers in charge, and there are prospects of additional employment as soon as the factory commences to get busy. At present the stocks of steel wire from which the nails are manufactured are purchased from overseas, so that the nails can hardly be called a South African product. The firm responsible for the enterprise is contemplating the enlargement of the present buildings, and early this year it is expected that machinery will be installed for the manufacture of steel ceilings.—"Industrial and Commercial South Africa."

United States Steel Corporation.

In place of the late Mr. Elbert H. Gary, or Judge Gary, as he was usually called, the United States Steel Corporation have placed the direction of their affairs in the hands of a triumvirate of leading bankers—Messrs. J. Pierpont Morgan, James A. Farrell, and Myron C. Taylor.

Under the old regime, Judge Gary's title of president, which was accurately descriptive of his position, was chairman of the board of directors, chairman of the finance committee, and chief executive officer. Now these responsibilities will be distributed among the triumvirate. Mr. Morgan becomes nominal head of the corporation with the title of chairman of the board, but, through a revision of the by-laws, will perform no executive duties; Mr. Farrell, as president and chief executive officer, will be responsible directly for the management, and for the present, at least, will be spokesman for the corporation—a function which Mr. Gary jealously preserved for himself. Mr. Taylor, as chairman of the finance committee, is expected, with very little interference, to determine and carry out the financial policies.

Head of the banking firm of J. P. Morgan & Co., Mr. Pierpont Morgan is known the world over. Mr. Farrell is president of the United States Steel Products Co. A man of sixty-five, he is still a tireless worker, on the job at an hour in the morning when most business men are turning over for a final nap. One of the "big men" in the financial world of America, Mr. Taylor is fifty-four years of age. He is a college graduate, and began the practice of law, but abandoned it for business, with advantage to himself.

Commonwealth Tariff Decisions

The following decisions of more or less interest to the hardware trade have been made during May. By way of explanation, it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (14/5/28, and so on) the date on or from which the new decision took or takes effect:—

Machinery, Machines, &c.—

- 28/372 T.D. '28/351 having reference to a Wave Power Apparatus is to be amended to operate on 12/4/28 in addition to the dates set out therein.

Machinery, Machines, &c.—

- 28/373 The date of operation appearing in T.D. '28/325 having reference to a Drying Tumbler is to be amended to read "30/8/27".

Electrical Appliances and Materials—

- 28/378 Meters, Alternating Current, Polyphas, Watthour, of the maximum and minimum demand type. (By-law No. 999) 174 14/5/28
 Note.—The reference to Meters alternating current, etc., in Consolidated By-laws, page 14, and in By-law No. 25, and T.D.23/14 are to be cancelled, but any Meters which were in direct transit to Australia on 14th May, 1928, and which, but for this decision, would be admissible under Tariff Item 174, may be admitted under that Tariff Item.

Electrical Appliances and Materials—

- 38/379 Telephone parts imported separately— 332 (b) 14/5/28
 Ear Pieces, Ebonite
 Ear Pieces, Vulcanite
 Mouth Pieces, Ebonite
 Mouth Pieces, Vulcanite
 Note.—The reference to Knobs, Ebonite, etc., in Guide, page 116, is to be cancelled.

Electrical Appliances and Materials—

- 28/380 Telephone parts imported separately— 332 (b) 14/5/28
 Sleeves for Ear Pieces, Ebonite
 Sleeves for Ear Pieces, Vulcanite
 Note.—The reference to Rings, Ebonite, etc., in Guide, page 117, is to be cancelled.

Forgings—

- 38/382 Model, in the rough, imported by engineering clubs for machining and completion under supervision at Technical Colleges, under security. (By-law No. 1011) 415a 16/4/28

Handles—

- 28/383 Furniture, metal 305 (a) 14/5/28
 Note.—The reference thereto in Guide, page 150, is to be cancelled.

Hoes—

- 28/384 Combination, being combined hand tools for hoeing and cultivating (as Hand Garden Tools) 219 14/5/28
 Note.—T.D.23/168 is to be cancelled.

Machinery—

- 38/385 The reference to Shearing Machines guillotine, capable of shearing steel sheets or plates $\frac{3}{8}$ in. or over in thickness by 10 feet or over in width, in Consolidated By-laws, page 19, and in By-law No. 25, and T.D. 23/755 are to be cancelled, but any such Shearing Machines as were in direct transit to Australia on 14th May, 1928, may be admitted under Tariff Item 174. (By-law No. 1007) .. 14/5/28

Pulls—

- 28/388 Metal, for drawers and cabinets .. 305 (a) 14/5/28
 Note.—The references (3) to Pulls in Guide, page 316, are to be cancelled.

Wire—

- 28/392 The reference to Double Galvanised Plough Steel Wire for use in the manufacture of Steel-Cored Aluminium Cable, under security in Consolidated By-laws, page 86, in By-law No. 71, and in Guide, page 403, is to be cancelled, but any such Wire as was in direct transit to Australia on 14th May, 1928, may be admitted, under security, under Tariff Item 404. (By-law No. 1008) .. 14/5/28

Electrical Appliances and Materials—

- 28/403 Batteries, storage, expressly designed for propulsion purposes, under security. (By-law No. 1019) 415a 27/3/26
 Note.—T.D. '27/1021 and By-law No. 704 are to be cancelled. (2)

Electrical Appliances and Materials—

- 28/404 Testing Equipment for determining the dielectric strength of solid and liquid insulating materials, consisting primarily of a testing transformer with necessary switchgear and measuring apparatus. (By-law No. 1020) 415a 10/10/27 (2)

Locks—

- 28/405 Metal furniture for single lever mortise lock sets, imported separately. 208(a)
 Single lever mortise locks—Parts of 208(c) not specifically provided for in any other Tariff Item

Machinery, Machines, &c.

- 28/406 Generator Sets designed to operate at 1,500 volts d.c. at the motor end to deliver 36 volts d.c. at the generator end, for use in the manufacture of Railway Carriages, under security. (By-law No. 1014) 404 31/3/28
 25/11/27

Machinery, Machines, &c.—

- 28/407 Motors, Electric, Power Factor Correction, of the "No Lag" type, exceeding 75 k.w. (By-law No. 1012) 174 21/5/28
 Note.—T.D. '28/167 and By-law No. 844 are to be cancelled, but any Electric Power Factor Correction Motors of the "No Lag" type up to and including 75 k.w. as were in direct transit to Australia on 21st May, 1928, may be admitted under Tariff Item 174.

Machinery, Machines, &c.—

- 28/408 Stokers, Mechanical, for use with Water Tube Boilers (as Coal Conveyors) 176 (d) 21/5/29

Floats—

Copper, for Steam Traps, imported separately—See "Machinery, Machines etc."—T.D. '28/423.

Gaskets—See "Packings."

Machinery, Machines, etc.—

- 28/423 Floats, copper, for steam traps, imported separately. 178 (a) 28/5/28

Machinery, Machines, etc.—

- 28/424 The following references in "Guide," page 227, are to be cancelled, viz.:—
 Stoker, mechanical, self-contained, etc.
 Stoker Parts, mechanical, etc.
 Stokers, mechanical (Coxe), etc.

Packings—

- 28/425 Gasket—
 Copper, being copper rings packed with asbestos. 374 (b) 28/5/28
 Note.—The reference to Washers, copper and asbestos, etc., in "Guide," page 398, is to be cancelled.

Interstate General News

Big Building Contract.

In New Zealand, the Auckland Electric Power Board have accepted the tender of the Fletcher Construction Co. Ltd. for the erection of an eight-storey building with frontages to Queen-street and Durham-street west. The contract price is £73,360, and the valuable sites cost £71,600.

Victorian Hardware Club.

As agent for the Automobile Insurance Co. of Australia Ltd., the Victorian Hardware Club is in a position to offer to owners of motor cars special rates for car insurance. On an insurance of £200, to take one example from the list published, the concession is 20/- on ordinary rates—£9 instead of £10. Then a bonus on profits, approximating 5 per cent., is also promised. Fire, burglary and other forms of insurance can be arranged through the club. The Automobile Insurance Co. of Australia Ltd. have their head office at 393-95 Little Flinders-street, Melbourne.

Proposed Railway Station.

At Wellington, the New Zealand capital, a new railway terminal is contemplated. A private architect has been called in to assist the chief engineer and other officers of the Railway Department in preparing plans, and as they have a desirable site to work on something good is expected. Three roomy frontages are at their disposal—to Feathers-ton-street, Bunny-street, and Waterloo Quay. The Bunny-street frontage, 350 ft. in extent, will form the main entrance, and by widening this thoroughfare on the other side a large open space for the accommodation of foot and wheeled traffic will be secured.

New Premises.

Goodall & Co. Ltd., engineers and machinery merchants, expect to move by July 1 into the building now nearing completion for them at 299-301 Kent-street, Sydney, adjoining their present premises. Comprising five floors and a basement, the new warehouse will give the firm three times the space now available, and afford room for the better display of their comprehensive stock. Heavy machinery will be located in the basement, and the small tool department will be on the ground floor instead of on the first floor as at present, while the first floor will be used as sales rooms and offices, the remaining floors being set apart for display purposes.

Brisbane Electric Tramways.

Controversy arose regarding the site chosen for the new power house for the Brisbane electric tramways. Mr. A. H. Darker, an English electrical engineer of experience, after viewing the work, endorses the action of those responsible. He says he has not seen a more suitable site anywhere. The work is now nearing completion, and another outsider, an officer

of the New South Wales railways, says it has been well done, and should serve the requirements of the city for many years to come. For the March quarter the City Council's electric supply department showed a satisfactory profit. The manager, Mr. J. H. Hindman, has recommended certain changes in the tariff, but these cannot be given effect until the new power house is quite in running order.

Roma Oil Bore in Queensland.

Good progress is being made in the No. 2 bore of the Roma Oil Corporation Ltd., which has now reached a depth well over 2000 feet, and already slight emanations of gas are being met with. The common enemy of oil is fresh water, and in order to safeguard the interests of all concerned, the Government are enforcing the regulations, compelling the shutting off of top, or artesian water, to prevent any possibility of the ruination of valuable oil structures.

Tests made of the company's No. 1 bore continue to prove satisfactory, and on every occasion a good percentage of oil with salt water has been obtained. The first unit of the gasoline or petrol plant should be in operation in about four weeks. A sale of samples in aid of the Roma Hospital during the recent agricultural show resulted in a profit of £60.

Passing of Valueless Cheques.

In an address to the Auckland (N.Z.) Chamber of Commerce on May 10, Mr. J. S. Barton, stipendiary magistrate, had something to say on this subject. "Judges and magistrates have commented until they are tired on the ease with which valueless cheques can be passed. Not only are cheques cashed, but swindlers borrow cheques and ink to write them. Why do business men accept those cheques? Because they say that the cheques presented are usually good, and they can pass on the loss on bad ones."

Mr. Barton said he had actually heard from witnesses in court that such losses did not matter; they were passed on to the consumer. "You are leaving ground for the harbouring of suspicions as to how you make your profits," he added. "You must remember that ill-informed minorities have often become majorities, which have overturned social and economic systems."

City Offices for N.Z. Capital.

Some time ago the City Council of Wellington, New Zealand, invited a committee of three architects to prepare a plan for utilising the land in the Town Hall area, including the erection of city offices, which are becoming imperative. After viewing the matter from every possible aspect, and having an eye to the future as well as to the present, the committee have submitted their recommendations. They were not asked to go into the question of costs and have not done so, but that they have remem-

bered practical possibilities the following paragraph from their report will show:—

"We have tried to consider the problem from every point of view, and, while the scheme we suggest is a considerable one, yet it is one which it should be quite possible for the city to carry out. There is nothing extravagant about it, and yet we feel sure that if given effect to it will not only meet the practical requirements of the city for many years to come, but will do a great deal to develop an increased civic consciousness and stimulate a wider interest in town-planning, without which it can never accomplish much."

Charge of Embezzlement.

In the Melbourne Criminal Court, on May 28, Herbert James Hannan, 36 years of age, appeared before Mr. Justice Wasley to answer a charge of having stolen £665/12/10, the property of the Commonwealth Barbed Wire and Nail Pty. Ltd., South Melbourne. The charge went back to September of last year, and this was a re-trial, the jury having disagreed on the previous occasion.

The Crown case was that Hannan, as secretary of the company, wrote out a cheque for an amount owing to another company, but that he made it payable to himself, and shortly after left for Sydney with the money, being ultimately arrested in Brisbane.

In a statement from the dock, accused said it was his custom to draw money and pay it into his own account, as the managing director was not always available to sign cheques. When the accounts were checked, he would then pay them from his own account. Shortly after the cheque was drawn, he was called to Sydney, where his mother was ill. He used some of the money to help his mother, who was in financial difficulties. He then became ill himself, and went to Brisbane, hoping to make enough to refund the money.

The jury returned a verdict of guilty, and prisoner was sentenced to twelve months' imprisonment.

Free Window Displays.

Aladdin Industries Ltd., of 49-53 Shepherd-street, Sydney, are offering a window display to stores in the form of a representation of what is called a "magic cave," the interior of which follows the formation of a natural cave, decorated with coloured tinsel, the whole being lit up with one of the firm's "Aladdin" lamps.

The effects are enhanced by a coloured globe above the lamp slowly revolving and making the word "Aladdin," emblazoned on the outside wall, to scintillate in a variety of colours. At the top is a frame on which are three "Aladdinettes," or brightly coloured shades, slowly revolving in time with the larger globe, the motive power being derived from the heat of the lamp. A notable feature is that the display shows up as well in the day time as it does at night.

With the object of further promoting sales a national advertising campaign has been undertaken, and sales made direct with the company in any district are credited to the local agent.

Non-ferrous Metals.

George White & Co., of 280 Post Office-place, Melbourne, have now complete stocks of brass and copper tubes and sheets of Australian manufacture, as well as copper rods and bars. The firm consider them of excellent quality, and this opinion is shared by manufacturers to whom the Australian products have been supplied for some time.

Large stocks are constantly maintained of rolled and drawn metals, including aluminium sheets, rods,

angles, and beading; brass rods, angles, squares, hexagons, half-rounds, and channels; delta bronze rods, phosphor bronze, and nickel silver sheets; mandril brass telescopic tube; and brass and copper strip. All these are supplied in a wide range, as well as zinc sheets, which may be had in all widths and gauges.

Established by the late Mr. George White in 1854, the business has developed in the direction of specialisation in non-ferrous metals for manufacturing and for workshop use generally. Many classes of material not readily obtainable elsewhere are found here, and the stocks carried are ample.

The Moratorium in Victoria.

In the annual report to March 31 last of the Victorian Chamber of Commerce, the much-discussed moratorium is denounced in the following terms:—

"This piece of legislation—badly conceived and hurriedly passed—came as a shock to the commercial community of the State. The accepted view was that it prohibited, except with leave of the Court, proceedings beyond judgment against all debtors directly or indirectly affected by drought or frost resulting in an area of the north-west of the State covering almost a third of the area of the State. In the light of all previous experience business people regarded the act as not only absolutely unwarranted and unjustifiable, but also as injurious to the credit of the whole State, through its interference with the flow of credit essential to the commercial well-being of the community. Strong protests were made to the Government, but nothing could be done, as Parliament was not in session. Greatly to the relief of business people, however, the Chief Justice of the State, in an action brought before him, gave an unexpected interpretation of the act, which had the effect of placing outside its provisions ordinary dealings between traders. In spite of this the act is a mischievous one, and has had unexpected reactions on those it was intended to benefit."

Australian Engineering Standards.

The Australian Commonwealth Engineering Standards Association announces that the following standard specifications, which were issued in tentative form for a period of twelve months, are now about to be revised, prior to issue as Australian standards:—

- K. 11-1927.T.—China Wood Oil (Tung Oil).
- K. 12-1927.T.—Perilla Oil.
- K. 13-1927.T.—Soya Bean Oil.
- K. 14-1927.T.—Interior Oil Varnish.
- K. 15-1927.T.—Exterior Oil Varnish.
- K. 16-1927.T.—Flatting or Rubbing Oil Varnish.
- K. 17-1927.T.—Zinc Oxide, Dry.
- K. 18-1927.T.—Zinc Oxide in Oil (Genuine Zinc White).
- K. 19-1927.T.—Genuine Red Lead, Dry.
- K. 20-1927.T.—Lithophone.
- K. 21-1927.T.—Barytes.
- K. 22-1927.T.—Blanc Fixe.
- K. 23-1927.T.—Calcite.
- K. 24-1927.T.—Whiting.
- K. 25-1927.T.—Kaolin.
- K. 26-1927.T.—Talc.
- K. 27-1927.T.—Linseed Oil Putty.

Trade With the East.

Mr. F. R. Smith, a young Queenslander, who has spent nine years in Amoy, China, as the representative of Boyd & Co., an English merchant and shipping firm, and is now in Brisbane, gave some interesting information in regard to the possibilities of Australian trade expansion with the East. He declared that there was nothing wrong with Australian-made goods, but that America was a formidable competitor. America spared neither trouble

nor expense to get her goods on the market, well knowing that the conservative habits of the Chinese induced them to stick to the known brands. Southern China was recovering rapidly from the terribly bad state it was in when the Russians were in power in Canton. The people appeared to have entirely got over their temporary prejudice against British manufactures, and war conditions had now shifted to north of Shanghai, where they were as bad as they could possibly be.

For the proper expansion of Australian trade with the Far East, it was necessary (1) to have an intimate knowledge of the Chinese markets, (2) to make a careful study of packing, labelling and advertising, (3) to secure proper representation on the spot by firms doing business in the East, and (4) to arrange competitive shipping freights with the American Pacific Coast. At the present time America could ship their goods at much lower rates. There was a considerable market for many Australian products, such as flour, meat, cow sinews, tallow, bones, and by-products of cattle and pigs.

A Challenged Contract.

In New South Wales some weeks ago Mr. Justice Harvey was appointed a Royal Commission to investigate certain irregularities said to have marked the placing of a contract for machinery by the Sydney City Council with Babcock & Wilcox Ltd. This well-known British firm have branch works near Sydney, and their attorney and general manager for Australia is Mr. Arthur James Arnot. The contract went back to the end of 1925 and totalled £603,447.

The allegation is that Arnot paid (or arranged the payment) to Silas Y. Maling, deputy manager of the City Council's electricity department, a sum of £10,600 in order to secure the contract. Arnot has admitted in evidence that he procured the paying of the money, but says he did it at Maling's suggestion because he was told that other tenderers, the International Combustion Co., were prepared to put up £15,000 if the contract came to them. Maling also admits that he knew about the offer and payment of the money, but says the suggestion came from Arnot in the first instance. Most of the £10,000 was divided among certain members of the City Council, his own share being £2,000, while the balance of £600 represented "expenses." At the time of receiving the money his official salary was £3,500 a year.

According to the evidence the £10,600 was remitted from London to the trust account at the English, Scottish and Australian Bank, in Sydney, of one Frank Buckle. This man, brought in as a "fence" to hide the transaction, paid over to Maling, who distributed to the other participants. The money came from the British firm according to Arnot, but of the correspondence relating to it little could be produced; and the director with whom this correspondence took place and who authorised and made the payment died early in 1927. This is Arnot's testimony.

In a cablegram published in the Australian press the present directors of the company say they have no knowledge of the transaction.

The inquiry is still proceeding at date of our going to press, and the judge has expressed his determination to secure evidence regarding the sum of £15,000 said to have been offered by the other firm.

Notes from Christchurch, N.Z.

Approval has been given by the Local Government Loans Board to the application of the Christ-

church City Council for authority to raise a loan of £220,000 to improve the city roads. The Board's requirements outlined the conditions on which it gave its approval, these providing amongst other things that no portion of interest or sinking fund shall be paid out of loan money.

Contrary to the expectations of many pessimists, the new Labour City Council in Christchurch has been able to show a credit balance of approximately £15,670 for the year just closed. This result has been achieved without taking from the electricity account the amount of £8,000 provided for in the estimates of receipts, and which it is proposed to transfer temporarily to the district fund, should that be necessary, in order to avoid increasing the rates at an economically inopportune time.

The New Zealand Federation of the Retailers' Association is co-operating with the general committee of the Empire Shopping Week in making this a great success, and special displays will be arranged in Christchurch from May 18 to 24. Prizes are to be given for school essay competitions and for window displays.

At the annual meeting of the Lyttelton Harbour Board, the chairman (Mr. R. Galbraith) said the tonnage entering the port for the last twelve months was 1,902,065, the best since 1915, with 1,970,493 tons, excepting 1925, when the aggregate was 1,921,737 tons. Canterbury's imports have exceeded its exports since 1920, and the past year has been no exception, the imports value being £6,524,423, and exports £5,125,136. Capital expenditure on the Board's new works and plant and additions to existing works was £19,664.

On May 28 the Diamond Jubilee of the City of Christchurch will be celebrated by various festivities, including a monster procession of civic authorities, early settlers, school children, local bodies and other organisations. A display of living chess is to be made at Lancaster Park, and the Royal Musical Society is to sing a special jubilee ode, written for the occasion.

After much discussion of other sites, the Christchurch City Council has decided to have the New Art Gallery, costing about £25,000, and donated by Mr. R. E. McDougall, erected in the Christchurch Botanical Gardens, at the rear of the Museum. This is a magnificent site, but not the best available in the gardens, the principal objection being that the Museum will prevent it being seen from outside the gardens. Plans are being prepared with a view to a National Competition among architects for the best design.

With a view to further celebrate the City's Diamond Jubilee and at the same time to find work for the unemployed, the City Engineer has prepared a report outlining the scheme of a river boulevard extending from the margin on both sides of the River Avon. Of the portion proposed to be done now, the cost, £5,800, includes labour, £3,800, or nearly 66 per cent. of the whole outlay.

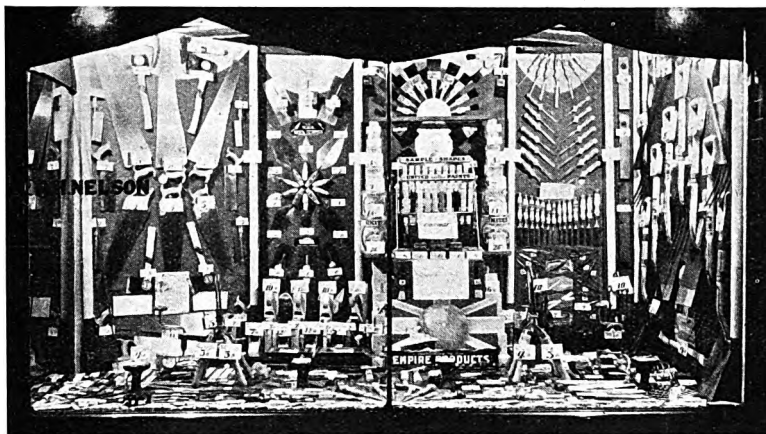
An extraordinary increase in building activity has been brought about by the letting of a number of large contracts pertaining to the inner area. The figures, covering the value of the building permits, issued by the City Council for April, constituted a record for the past six years. The biggest of the contracts is for alterations to the Theatre Royal (£30,000); a building in Manchester-street for the Church Property Trustees (£9,200), and new premises in Hereford-street, for Hamilton & Hamilton, accountants (£8,000); while the largest undertaking in the outer area is the restoration of a factory belonging to Aulsebrook & Co., recently burned down, which will cost £14,888.

Empire Shopping Week in Melbourne

Observed in Melbourne, as in other places, from May 21 to 28, Empire Shopping Week proved a great success. Window-dressing competitions were held in various trades, and attracted much attention.

In the hardware section the windows were judged by Mr. T. R. Congleton, of Sydney-road, Coburg, and the winners were:—

1. Nelson's Pty. Ltd., 871 High-street, Thornbury.
2. J. H. Chandler Pty. Ltd., Heidelberg-road, Ivanhoe.
3. W. & L. Gordon Pty. Ltd., Napier-street, Essendon.



Prize Hardware Window of Empire Products.

In addition, the prize for the best display of "Pyramid" aluminium ware was awarded to Mr. W. J. Johnson, 314 Bridge-road, Richmond.

The display made by Nelson's Pty. Ltd. was well balanced. The background was made up in four sections. The first section showed saws from Spear & Jackson Ltd. and Joseph Tyzack & Sons Ltd., and hatchets from Wm. Hunt & Sons, the Brades Ltd. Section No. 2 showed bricklayers' and plasterers' trowels from the same makers with planes at the foot, bearing the brand of Alex. Mathieson & Sons Ltd. The third section had a background of painters' brushes, with a display in front of "United" paint, while the last section showed a fine range of "Screw" brand chisels from the works of Chas. Taylor's Sheffield Tools Ltd. On the wall spades and forks—mostly Brades' make—were well arranged. The floor of the window displayed a fine assortment of tools for various trades.

J. H. Chandler Pty. Ltd. presented a great variety of lines, and the tickets on the goods were remarkably good. The weakness of this window was in slogans. The window reflected great credit on the dresser, Mr. House, and the goods were shown to great advantage.

W. & L. Gordon Pty. Ltd. had a map of the Empire in the background. Slogans were a strong feature. The window was a good "selling" one, and attracted much attention. The tickets were not so good as those of the other prize winners.

Mr. W. J. Johnson's display of "Pyramid" aluminium reflected great credit on Miss Shavin, who arranged it. Much taste was shown, and the planning was very creditable. This display attracted much attention from passers-by.

In the city proper, among the non-competing windows, pride of place was occupied by McPherson's Pty. Ltd. The whole of this firm's extensive window front displayed Empire products. One notable feature was a show of bolts and nuts and a picture of portion of the Sydney Harbour bridge, bolts and nuts for which are being supplied by this firm. The task of arranging the displays in these windows was considerable, and must have taken much thought in selecting the goods and placing them to advantage.

John Danks & Son Pty. Ltd. had an effective show of tools and other lines. Another window featured door furniture, while an instructive display was made of brass foundry from their own factory.

James McEwan & Co. Pty. Ltd. made a first-class show of various lines, though only certain of their windows specially featured Empire products.

In Little Collins-street Mr. James Walker had a tastefully dressed window, mainly of tools. Here also was evidence of forethought and a desire to help in the movement to push Empire products.

Eliza Tinsley Pty. Ltd. also made a good show of Empire products, which drew a good deal of attention from the passing public.

A Workshop Catalogue.

Superseding a publication distributed early in 1922, H. P. Gregory & Co. Ltd., of Sydney, have issued a catalogue of over 330 pages about 10 x 7. The issuing firm are engineers and general machinery merchants, and the new volume suggests, if it does not fully represent, their stock and connections. Hundreds of illustrations are given—of machines, tools, and engineering and workshop requirements of all kinds. While American manufactures predominate, many well-known British makes and makers are listed, such as "Footprint" pipe wrenches, Mathieson's chisels, and Rabone's rules—to mention but a few. A list is given of the exclusive agencies—American, British and other—held by the firm, some of these covering the whole Commonwealth, while others are confined to New South Wales. At the end of the volume is an interesting section of "technical data," including tables and lists obtained from various year-books and other publications. A detailed index facilitates reference to any required article.

With headquarters at 74 Clarence-street, Sydney, H. P. Gregory & Co. Ltd. have branches in New York and London.

Mechanical Rubber Goods

By A. M. Munro, M.A., A.I.C., Chief Chemist, Dunlop Rubber Co.
of Australasia Ltd.

(Concluded from page 178)

Another fundamental operation preparatory to the actual building up of various articles is the running of this stock through the steel rolls of a type of mill called a calender, in order to produce thin rubber sheet. The rolls of this machine can be steam heated or water cooled as required, while their distance apart (by means of special gearing) can be very accurately regulated. During calendering the thickness of the sheet is determined from samples by means of an accurate micrometer gauge, and the whole of the operations require skilled workers. On the calender, also, rubber stock can be squeezed into cotton fabric so that the latter becomes impregnated with rubber or, as it is said, "frictioned." This friction, which is largely used for building up the carcass or body of tyres, is also employed, usually made from what is known as square woven fabric, in the manufacture of hose, belts, packings, and a variety of mechanical goods.

For some classes of work the rubber stock is prepared in the form of tubes or cords by extrusion or squeezing from a forcing machine, where the rubber is forced through a die by pressure exerted by a strong screw.

After the preliminary operations in the preparation of the rubber have been accomplished it then becomes possible to build up and mould the thousand and one mechanical articles which are to be manufactured in the factory.

Belts.

These fall into two main classes, driving belts and conveyor belts. The first are constructed in comparatively narrow widths and are usually of a light weight and flexible nature, and they are constructed from strong cotton duck cemented together with vulcanised rubber, which has been thoroughly pressed into the fabric in a calender. The essential quality of driving belts, which have to travel at high speed and withstand a great deal of flexion, is that the rubber friction should be very adhesive and not allow the cotton plies to separate from each other during use. As an additional precaution such belts are often sewn together with strong thread, and are then known as stitched belts. A cover of rubber may be provided or not, as the case may be.

Conveyor belts, on the other hand, which, as their name implies, have to carry various materials, are generally of heavier construction, built up from heavy cotton duck, weighing perhaps 32 oz. to the sq. yd., and often contain up to eight plies of fabric. They are covered with a layer of vulcanised rubber extending right over the edges in order to protect the cotton from moisture, as these belts often work in the open, and sometimes the cover is thickened towards the centre of the belt on which most of the load falls, the belt being then termed a "filled body" belt. The covers are designed to resist abrasion, if they have to carry coal, ore, or other minerals, and are made from heat-resisting stock when hot materials, such as partially quenched coke or Portland cement are to be carried.

Then, again, acid-resisting stocks are in use for special purposes. Belts up to five or six feet in width and some hundreds of feet in length have been constructed, which may weigh ten or more tons. The

proper fitting and care of such belts is a science in itself and engineers have given much thought to the best manner in which to join the belt, take up the stretch from time to time, and run the belt on properly designed idlers when not in use.

Rubber Matting.

Examination of the floor coverings in many of our banks, offices and other public buildings will show how great an advance has recently been made in this branch of rubber manufacture. A great variety of colours and patterns are now available both in plain mattings and in tiled floorings, as well as in intricate designs, such as pictures of flowers, leaves, or sporting subjects. Then, too, variegated matting consisting of properly blended and streaked colours is becoming increasingly popular on account of the fact that it does not readily show the dirt.

As a rule this matting is constructed from a thin sheet of vulcanised coloured rubber placed over a backing of cheaper material, the whole being welded together in the vulcanising press. Tiled patterns are obtained by putting together by hand unvulcanised stamped pieces on a backing and then vulcanising or curing the two together in the press, and on account of the amount of labour involved these are necessarily more expensive than plain matting. The variegated variety, as might be expected, is made up by squeezing together, through a calender, small lumps of differently coloured stock and then curing the variegated sheet.

Rubber matting is easily cemented by means of a strong solution of rubber in benzene to wooden floors, but the laying on concrete is a more difficult matter. Where there is a concrete base care must be taken to ensure that no damp can rise up from the concrete under the rubber, or it will be unable to evaporate and will cause the matting to rise. If moisture is present, as it often is if the concrete is below the ground level, the floor should be first waterproofed, with bitumen or a similar composition before the matting is laid.

Rubber matting may be cleaned with a mild abrasive such as sand soap and a little soda, but should not be wiped over with benzene, as the latter softens it, causing blistering and destroying the surface. Kerosene should, if used at all, only be employed at very rare intervals, as the best plan is to obtain with a suitable wax mixture a polish on the matting, so that the latter can then be easily cleansed with a mop and soap and hot water. Several preparations are on the market for cleaning rubber floors, the majority of which are quite useful and do not damage the rubber.

Ebonite Goods.

When rubber is vulcanised with a large amount of sulphur, say 20 or 30 per cent., hard rubber or vulcanite is obtainable, and this material, which is usually black in colour, is employed for the making of electrical goods of every description, telephone parts, fountain pens, acid and alkali resisting chemical ware, such as tubing and pump linings. A good ebonite has a very high resistance and a sheet one quarter of an inch in thickness will resist a voltage up to 60,000 without breaking down. Large

quantities of ebonite are now used for wireless panels and other accessories, and in some directions the material is more suitable than resins of the bakelite class.

Tennis Balls.

The manufacture of these is a specialised branch in itself on account of the rigid specifications and tests with which the modern tennis ball must comply. They must hold air reasonably well and be capable of storage in the shops for at least several months and yet must not be too highly inflated and lively in play when first leaving the factory. As rubber is a more or less porous material it is easy to see that the problem is not easy.

The stages in the manufacture of the ball are as follow:—First of all, calendered sheet rubber is run in several very thin plies and from this are cut with a revolving mechanical knife dumbbell-shaped sections, with bevelled edges. After the edges have been wiped off with benzine, these are put together in pairs to form a little box, as it were, one corner being left open. Attached to one of the sections is a small plug of unvulcanised rubber commonly known as the "bouncer." A small charge of ammonium carbonate is put into each box and the latter is then closed and placed in a hollow steel mould of circular shape. During vulcanisation the ammonium carbonate gives off ammonia and carbonic acid gas, which exert a pressure in the interior and force the section out in the mould into the form of a ball. The mould is opened, and after a suitable interval the balls are properly inflated with air at a pressure of about 13 lb. by placing a hollow needle attached to an air supply through the bouncer. When the needle is withdrawn the unvulcanised rubber knits together again and forms a non-return valve. This inflation and gauging to size is carried out automatically. After buffing, the balls are covered with felt, either with cemented or sewn seams, and are then ironed, finished and tested in various ways for bounce, size, weight, compression and so on.

Many other methods of construction are available, such as making the ball in two sections and inflating by means of a small amount of a suitable chemical mixture or by actually joining the two halves in a chamber where the air pressure is above that of the atmosphere.

Rubber-covered Rollers.

These vary in size from the small rollers used in wringing machines and typewriters to those weighing several tons, employed as press or squeeze rollers in paper mills and other industries. They are usually made from soft rubber vulcanised to a hard rubber or ebonite base which, in turn, adheres to the metal core.

Surgical Goods.

Under this heading are included a great variety of hand-made goods, such as hot water bottles, air beds and cushions, as well as artificial limbs and various medical appliances. Operating gloves, made by dipping porcelain hands in a solution of pure rubber in benzine, drying and vulcanising in a solution of sulphur chloride, are also included in this class and form quite an important branch of the industry.

It would be possible to continue the list of the many and varied goods made from rubber almost indefinitely, but sufficient has already been said to indicate how wide is the scope of that branch of rubber manufacture included under the heading of "mechanical." It is only necessary to look round the average house to discover at once quite a large num-

ber of articles constructed from soft and hard rubber, varying from the matting on the bathroom floor, the hose in the garden, the telephone receiver and the rubber insulated wires, the owner's fountain pen, his dental plate, and the baby's comforter. In every one of its forms rubber is now an integral part of modern life and has contributed more than a little both to our present high standard of domestic comfort and to the efficiency of our cities and factories.

Publications Received

Canadian Trade Index.

From year to year the Canadian Manufacturers' Association Inc. issue a volume giving lists of the articles actually made in Canada and of the firms who make them, the latter not being confined to members of the association. The issue for 1928 is a fine stiff-boarded volume of nearly 900 pages, 10 x 6½. Apart from the advertisements, which are not the least interesting or informative part of the book, there are five divisions: (1) a special export section, (2) an alphabetical list of manufacturers, (3) a similar list of manufactures, (4) a directory of exporters of agricultural produce and allied lines, and (5) alternative or duplicating lists in French and Spanish of the information given in English regarding the manufactures of the Dominion. The first or special export section is a new feature. It occupies 54 pages and is official, the information having been furnished direct by the Department of Trade and Commerce. A valuable addition this, being carefully classified and covering much ground. The other sections have been revised so as to fairly represent the manufacturing position of the country.

The offices of the Canadian Manufacturers' Association Inc. are at 67 Yonge-street, Toronto, and our copy of a very acceptable publication reaches us through the Canadian Government Trade Commissioner in Australia (Mr. D. H. Ross), 90 Queen-street, Melbourne, C.1.

Spraying Machines.

In their catalogue for the current year Cooper, Pegler & Co. Ltd., of 24-26 Christopher-street, Finsbury Square, London, E.C.2, describe the Virmorel "Eclair" spraying machines, for which they are widely known. These cover a variety of forms—hand sprayers, pneumatic hand sprayers, knapsack sprayers, pneumatic knapsack sprayers, bucket pumps, bucket sprayers, single-wheeled sprayers, automatic horse-drawn sprayers, two-wheeled hand-power sprayers (high pressure model 220 lb. per sq. in.), 3-h.p. motor spray outfits, cart sprayers, hand bellows, knapsack power sprayers, and automatic horse-drawn powder sprayers.

Of particular interest are the firm's small automatic hand sprayers for applying disinfectants, etc., in the form of a mist spray. Their pumps for use in a bucket or any similar container possess advantages over other similar types, including a swivel and self-clearing nozzle, a large compression cylinder and a tap.

They offer knapsack sprayers, both of the continuous pumping and pneumatic types. The latter is becoming increasingly popular, especially in countries where spraying work has to be carried out on rough and hilly country. Their single and double wheeled power sprayers work at a low pressure and also at the unusually high pressure of 220 lb. to the sq. in., while their motor-spraying outfit is capable of feeding four spray lances or guns, which throw a mist spray from any distance between two and thirty feet from the nozzle.

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.

For English prices, see The Month's Cablegrams on page 212

Sydney, May 31, 1928.

Trading conditions have been steady throughout the past month, and prices have remained unchanged. In several departments orders have been more than satisfactory, while an exactly opposite condition is noted in others. The country has responded very well, and it is thought a very favourable outlook may be taken of trading possibilities. Naturally, at this time of the year, sellers are doing all possible to reduce stocks in view of the approach of stocktaking, and reports to hand indicate that the general position is better than was originally anticipated. Throughout the trade careful attention has been paid to finance, and money is not available for other than recognised standard lines. The large merchants have kept stocks up to limits, and an optimistic tone prevails. All trades seem to be busy, and manufacturers have sufficient work on hand to keep up with necessary orders required for continuity of output. Shelf goods have had attention, and stocks have been replenished from time to time amongst the interhouse traders. It is indicated that June quotations for steel will be increased, and possibly other heavy lines, but at time of writing such possible alterations have not come into effect. Galvanised sheets, both plain and corrugated, have shown keen competition in price, and parcels arriving on indent for open stock have been sold at comparatively low prices. Welsh coke tinplates have been booked up well for indent positions ahead, and market quotations on spot stocks have been maintained. Painters' materials and builders' goods have had very strong support, and anticipations are that a continuance may be expected. Jute trading has taken a quiet turn as the monthly report was made, but merchants have made a close contest amongst themselves for any parcels available. Suburban storekeepers report a good month. Trade has been fairly well spread, and cash transactions, while limited to many small money purchases, has helped to reduce stocks, and this feature will bear good opportunities for the next half-year.

Christchurch, May 15, 1928.

This being a winter month, business in Christchurch is usually rather slack, and most of the hardware houses seize the opportunity to take stock. The painting trade is very quiet just now, people not caring to have their houses painted now that the frosts have commenced. Linseed oils for painting purposes still sell at the low figure of 5/- for Auckland (N.Z.) brands, and 5/3 for English, and best English makes of genuine white lead are showing very little profit at the price of 57/6 per cwt. Genuine turpentine has been reduced in price to 6/- per gallon. The building trade is looking up; not very much cottage building is going on, but a number of very large city jobs should help to keep

down the numbers of the unemployed. The Government is not proposing to pay full award rates to unemployed, but instead 9/- per day to single and 12/- to married men. Full rates, experience shows, bring farm hands into the city and complicate the problem. The various golf departments in the hardware firms report good business. Competition in this line is very keen. One Christchurch firm employs a professional coach who gives lessons in business hours to customers who can spare an odd half-hour at intervals. This firm also run a weekly putting competition between its lady customers, giving as a prize the choice of any golf club in stock. The opening of the shooting season on May 1 caused a rapid depletion of the stocks of shot gun ammunition and accessories, such as waders,

NEW ZEALAND PRICES

	Duty.	Auckland. Mar. 26	Christchurch May. 15	Dunedin. May. 17	Wellington Mar. 29
IRON—					
Bar—		£	£	£	£
English ..	Free	21	22/	21/	22/
Shoeing ..		23	23/	21/	23/
Steel ..		15/10 to 21/-	20	22/	15/ to 22/
Pig ..		8	10/6	10/6	9/- to 10/-
Plate ..		21 10/	24/	25/	22/
Hoop ..		24/ 35/	25/6, 37/6	30/	25/ and 35/
Sheet, Blk.					
to 20-g. ...		23 10/ 24 10/	23/6	24/	24/6
22 & 24 g. ...		25 10/	26/6	26/	26/6
Galv. Cor.—	2/-				
First ..		28	30/ Builders	30/	28/
Second ..		27	27/-	27/6	27/
Local ..		28			
Do.. Plain ..	Free				
24 & 26 g. ...		29/10/3,30/15	31/ 32/	33, 35, 37	26
Pipe—Galv. ..	Free	50%	47 1/2% off	42 1/2%	45% off
Black ..		60%	50% off	50% off	50% off
Wire—					
Galvd. ...		15/6, 18/-	16/	16/	17/ to 18/
Black ..		16/-	16/	15/	
Barbed ..		21, 23 10/	21/-	21/	21/ to 22/
Nails ..	2/4/- c.	20/6	20/	22 to 23	22
N. Z.					
Lead—Pig ..	Free	30/-	33/-	36/	32
Sheet ..		34, 10	38/-	36/	39
Shot ..	10/	75/	75/	80/	75/
Tin—Ingot ..	Free	7/7	2/9	3/2	2/10
Plates ..		32/6, 48/6	40/	40/	37/6
Zinc—Sheet ..		7 1/2 lb.	9d. lb.	8 1/2 d.	7 1/2 d
Quicksilver ..			6/61b		
Cement—					
Imported ..	1/- cwt.		25/- cask		
Local bag ..		5/8	7/-	6/	5/11
Slates ..	Free				
P. of Paris ..		26/-	30/-	28/-	27/
White Lead ..	6/- cwt.				
Best ..		54/	57/6	56/-	58/
Second ..		53/			57
Blst. Powder ..	Free	1/8	2/-	1/7	1/8
Rope—	20%				
Manila, Star ..		111/	111/	111/	111/
O. ...		107/	107/	107/	107/
Flax, N.Z. ...		81/ 88/	88/	88/	88/
Corn sacks ..	Free				
44-in. ...				12/9 1/2	13/6
46-in. ...			12/9	12/8 1/2	12/4
48-in. ...		14/6	13/3	13/3 1/2	12/10 1/2
Woolpacks ..					
Full ..	Free	5/3	5/3	4/6	5/3
Oils—					
Lins'd, raw ..	6d.	5/-	N.Z. 5/- Eng 5/3	5/2	5/3
Castor ..	Free	5/-	5/6	5/5	5/6
Colza ..		7/9	8/	8/-	7/9
Kerosene ..		13/9	14/9	14/6	18/9
Turpentine ..		6/6	6/-	6/6	6/6

duck calls, decoy ducks, besides which a great number of both single and double barrelled guns were sold. With the recent useful rains, farmers are busily engaged in ploughing, and good sales of ploughshares and plough oils are reported. Sheep netting and standard iron, which usually sell very freely at this time, are not in such demand as usual. There will be a big demand for shovels when the city council's big roadway scheme, costing about £220,000, is started, but a poll will have to be taken first. This and the proposed boulevard scheme should find employment for all the city's unemployed.

Dunedin, May 17, 1928.

Although trade can hardly be termed brisk at present, confidence is still maintained regarding the future. The splendid response given to the annual winter show of the Otago Agricultural and Pastoral Society by the farming and trading bodies augurs well for this annual undertaking early in June. A considerable increase in the entries is reported. Ford's exhibition of the latest motor production has been receiving a great deal of patronage, and will prove a great attraction at the Show. The contract for repairing the whaling ship "C. A. Larsen" at Port Chalmers has been successfully completed. In regard to prices ruling at present, but few alterations on last month's list are called for. English bar iron has dropped to 20/-, and so also shoeing iron. Black sheets have also been reduced to 24/- for 20 gauge, and 26/- for 22 and 24 gauge. Galvanised corrugated iron is down to 27/6 for second brands, and plain 24 and 26 gauge to 33/-, 35/- and 37/-, while nails take a lower value at 22/-. With these exceptions last month's list prices stand. The unemployment problem is not yet solved, but a plan is to be initiated locally which should help to mitigate the position somewhat.

Brisbane, May 29, 1928.

While admitting that there has been some improvement in trade since last report, Brisbane merchants still find business on the slow side, with money very scarce and hard to collect. Heavy hardware is improving, but the volume of business is far from adequate. A cold snap in the weather during the month brought about a fair demand for all classes of heaters, and merchants have been kept busy. Even as it is stocks are ample. Pastoral supplies have been quiet, although there has been a fair demand for fencing wires, also barbed, and wire netting for both dogs and marsupials; quantities have not been large, and prices have dropped all round. Stocks are fairly right with the exception of 12½-g. barbed, which is in short supply from spot stocks. Paints and oils have shown an appreciable improvement over last month, which it is hoped will now be maintained. Stocks are in good supply, and prices about the same. Other builders' supplies are on the quiet side, and it is not expected there will be any improvement before July; all possible Government work is being deferred to that date. Galvanised iron has been moving steadily, and prices have been reduced, with stocks fairly right. Sanitary materials and accessories are very jerky, and unsettled, owing to the amount of showery weather. Stocks are much too heavy, and merchants would welcome some dry weather with some decent orders in order to reduce. Shelf goods have been very slow, and prices are as keen as possible, with stocks heavy. Aluminium, enamelled and glassware are quiet, most retailers endeavouring to keep down stocks for the annual overhaul.

Adelaide, June 2, 1928.

Trade at this centre during the period under review was much brighter than for some time,

although well behind the corresponding month last year. Mild steel rods in merchants' lots sold at £15, whilst fencing steels were placed in satisfactory parcels. Fencing wires and netting were in demand, and some good business was transacted at the prices listed. Ingot tin continues to fall, the price at the close of the month being £234 in ton lots. Leadware prices remain unchanged, although the London exchange price has advanced £1 per ton during the past week. There has been a fair demand for tubing from country centres on account of dry conditions, and sales have been made at the prices listed. Good sales of shot and cartridges have been made during the past few months. Several big indents for resin have been placed as the American market is weak and prices lower than for some considerable time. Although indent prices for new season's turpentine are being energetically canvassed by the brokers, buyers do not show much disposition to order ahead. The Government have mapped out a programme of works with the object of relieving unemployment. The undertakings which will be put in hand immediately are to cost about £6,000,000, and as this money is put into circulation, and the number of unemployed is appreciably diminished, trade in South Australia should show considerable improvement.

Melbourne, June 3, 1928.

There has been little life in the hardware market for some time past. Here and there certain lines show a better tone, due to special reasons of one kind or another, but a review of the whole trade is not very encouraging. No large handlings are reported in metals or fencing materials. An indication of the steel market is afforded by sales of 5 tons steel angles, ½ x ½, at £25/10/-, and 3 tons 2 x ½ at £15 10/-. A parcel of 20 tons mild steel, ½ in. rounds, sold at £13/10/-, and 5 tons ½ rounds at £14/10/-. A few lines of black sheets, 6 x 24 x 10, and 6 x 36 x 10, brought £17. Horseshoes are still sold here and there. A sale of 3 tons was observed, but the price was not disclosed. Australian galvanised and black fencing wires showed a reduction of about 20/- per ton. The ruling prices were for No. 8 galvanised, £16; No. 9, £16/15/-; and No. 10, £17/5/-. These were all subject to 2½ per cent. Sales of from 5 to 10 tons were made at these rates, while black wire went at corresponding prices. A little barbed wire changed hands, mostly 5-ton parcels, the prices being for No. 12, £22; and for No. 13, £23. Wire nails were cleared at £17 basis, less 2½ per cent. Wire netting also moved slowly, and in quantities of 5 or 3 miles fetched for 42 x 1½ x 17, £41 10/-; 36 x 1½ x 18, £29; and 42 x 1½ x 17 (A grade), £47. Building materials again sold in small quantities only. Cement would appear to be in demand more for large public undertakings than for private operations. Melbourne price for Australian brands is about 17/6; 250 casks English cement, which brought 20/- per cask, is an indication of the market for imported brands. Plaster is quiet. Galvanised corrugated iron is quoted here as follows:—Orb, £25; Phoenix Crown, £25; and E.S. Co., £24 10/-. Paints and oils, as might be expected, found few buyers except for future deliveries. Fergusson's white lead, and also Champion's, was accepted at 62/6 per cwt., Mersey at 62/-, and Hubbuck's at 62/6. The trade may be interested in the current quotations for standard hardware lines:—Shovels—Ames No. 3, 127/-; Day's No. 3, 117/-; Brown's No. 3, 45/-; Parkes' Nos. 2 to 6 range from 77/- to 96/- for D.H., and from 83/- to 109/- for L.H.; Brades' figure 1100, from 73/- to 86/-. Other sales reported through the month of May are:—10 cases "Victor" rabbit traps at 20/-; 3 tons ingot tin at £236, moving later to £245. A parcel of 3000 ft. single and double leather belting went for interstate sale, the price not being mentioned, while 200 boiler tubes, 4 in. x 9 g., found a buyer at 10 per cent. off.

The Month's Cablesgrams

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date	Copper Electrolytic Per Ton		Tin Standard Per Ton		Silver Standard Per Ounce	
	1927	1928	1927	1928	1927	1928
Apr 30	£ 61-61½	£ 66½-67	£ s. d. 294 2 6	£ s. d. 230 16 3	d. 25½	d. 26½
May 3	61½-61½	66½-67	296 7 6	232 17 6	25½	26½
" 9	61½-62	66½-67	297 7 6	233 1 3	25½	27½
" 16	61-61½	67-67½	290 16 3	232 1 3	26	27½
" 23	60½-61	67½-68½	295 17 6	228 18 9	26½	28½
" 30	60-60½	68½-69	291 11 3	226 18 9	26½	27½
June 4	60-60½	68½-69½	292 16 3	223 18 9	26½	27½

The stocks of tin in the United Kingdom at the end of May were 16,898 tons, the deliveries for the month 1900 tons, the quantity on spot 958 tons, and the quantity afloat 1900 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—May 3, £20/11/3; May 9, £20/5/-; May 16, £20/7/6; May 23, £20/5/-; May 30, £21/8/9; June 4, £21/11/3.

For the month of April the imports of lead into Great Britain were 28,018 tons, including 12,321 tons from Australia. The exports for the month were 2347 tons.

Spelter.—The spot quotations for spelter, as cabled from London, have run as follows:—May 3, £26/5/-; May 9, £26/7/6; May 16, £26/5/-; May 23, £25/16/3; May 30, £26/1/3; June 4, £25/17/6.

Tallow.—Following are the statistics for May and particulars of the latest auction sales:—

May	Casks	Date	Casks Offered	Casks Sold	Mutton Med., per cwt	Beef Med. per cwt
Imports	1655	May 2	709	625	38/-	38/-
Deliveries	1066	" 9	Nil			
Stock	1147	" 16	Nil			
		" 23	753	164	38/-	38/-
		" 30	Nil			

The Iron and Steel Merger

An abridged prospectus has been issued of Australian Iron & Steel Ltd., which is being formed with an authorised capital of £5,000,000 and an issued capital of £3,100,000. This company represents a merger of the iron and steel manufacturing business of Hoskins Iron & Steel Co. Ltd. and the structural steel engineering and fabricating business in Australia (other than the Sydney Harbour bridge contract) of Dorman, Long & Co. Ltd. In addition to these, Baldwins Ltd., iron and steel manufacturers, of England, and Howard Smith Ltd., shipowners and colliery proprietors, of Australia, are associating themselves with the new company and acquiring a substantial interest in it by means of ordinary shares. Of the ordinary capital, £1,000,000 will be provided by Hoskins Iron & Steel Co. Ltd. or their shareholders, £600,000 by Dorman, Long & Co. Ltd. or their shareholders, £400,000 by Howard Smith Ltd. or their shareholders, and

£100,000 by Baldwins Ltd. or their shareholders. That makes £2,100,000 in as many shares of £1 each, and a further £1,000,000 is to be offered for public subscription in £1 cumulative preference shares carrying a 7½ per cent. dividend.

The directors of the new company are Mr. Cecil Harold Hoskins and his brother, Mr. Arthur Sydney Hoskins (Hoskins Iron & Steel Co. Ltd.), Sir Arthur John Dorman and Mr. Lawrence Ennis (Dorman, Long & Co. Ltd.), Mr. Harry Bellingham Howard-Smith and Mr. Edwin Harold Flack (Howard Smith Ltd.), Sir W. Charles Wright (Baldwins Ltd.), Mr. Arnold Stanley Taylor (Southern Portland Cement Ltd.), and one other to be appointed. The Messrs. Hoskins are the managing directors, Mr. C. H. Hoskins being chairman of the board. The secretary of the new company is Mr. R. J. Burns, and the registered office is at Kembla Building, Sydney.

In New South Wales for many years the Hoskins family have been engaged in the iron and steel industry. The blast furnace and steel rolling mills established at Lithgow by Mr. William Sandford were taken over by them in 1907, since which they have spent a great deal of money in extending the plant and developing the business. Lithgow is close on one hundred miles inland from Sydney, and finding, as the enterprise grew, that the situation was unfavourable, they acquired, some years ago, a roomy site at Port Kembla, on the coast, some 56 miles south of Sydney, and here a blast furnace with a nominal capacity of 200,000 tons of pig iron yearly is nearing completion. An open hearth steel furnace is also to be erected. The Port Kembla property is less than nine miles by rail from the company's collieries and coke works at Wongawilli, and is conveniently situated for receiving the various raw materials by land and sea. At Marulan, in New South Wales, they have ample deposits of limestone, and in that State, as also in Tasmania and Western Australia, they control large deposits of iron ore. The company's leases at Yampi Sound, in Western Australia, cover ore which is said to be among the richest in the world. A private railway half a mile in length will connect the company's works with their deep-water wharf.

Dorman, Long & Co. Ltd., of Middlesbrough, England, were known in Australia in connection with structural steel and engineering work long before they secured the contract for bridging Sydney Harbour. They have had branches here for some years. Much of the material they have hitherto imported from headquarters will now be obtained from Port Kembla. It will be seen that Mr. Lawrence Ennis, their resident director, who has charge of the bridge contract, is on the directorate of the new company.

Baldwin's Ltd., whose practical interest has also been secured, is also well known in Australia, especially in connection with galvanised iron. They are providing the new company with large steel rolling mills for £168,000, and take £100,000 of this in fully paid £1 ordinary shares. It is from the shipping and coal-mining aspects, presumably, that the new works at Port Kembla will benefit by the association of the Australian company, Howard Smith Ltd. They are engaged in the shipping and coal business with a line of steamers on the Australian coast, and collieries in New South Wales.

Not at Home.

"Why didn't you send your man to mend the electric bell?"

"I did, madam, but as he rang three times and got no answer, my man decided there was nobody at home."

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney May. 31	Melbourne June 3	Adelaide June 2	Brisbane May. 29		Duty	Sydney May. 31	Melbourne June 3	Adelaide June 2	Brisbane May. 29
Pig Iron	20/ 40/	£	£	£	£	Zinc—	£	£	£	£	£
British	...	...	7 5/	7 10/	...	Sheet 9 to 18g	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.
Swedish	...	...	...	...	...	(7 x 3 & 8 x 3)	...	4/9	7	...	5/6
Lithgow	...	7 10/	7 5/	...	...	Perforated	35%, 45%	32	...	54/	...
Newcastle	...	7 10/	7 5/	7 10/	...	Spelter	10%, 20%	301 10/ to 37	41 to 42	...	40/
Bar and Rod	44/ 120/	23 basis	English 21	21	22 10 basis	" Elec...	25%, 40%	1/9	1/5	...	1/9
Australian	...	...	18/6	17 10/	...	" Brazing	...	...	...	...	...
Mild Steel	44/ 120/	19 10/basis	19 basis	19 10	18	Bolts & Nuts—	...	75/ 59/	63/ 47/ 41/	...	26/3 to 73/
Bar	...	19 10/	18	20	19	Cuphead	3"	76/ 57/	61/ 46/ 39/	...	...
Angles	...	21	18	21	20	"	4"	70/ 54/	56/ 43/ 37/	...	...
Tees	...	...	...	...	...	"	5"	65/ 49/	52/ 39/ 35/	...	...
Hoops	F., 10%	20 basis	19 basis	19	21/ basis	"	6"	61/ 47/	49/ 38/ 34/	...	...
Black	...	29/9 basis	32	33/	32 10/	" 9 1/2 to 12"	...	59/ 45/	47/ 36/ 32/	...	...
Galv.	...	25	24 10/	25	25 5/	Tanks, 400-gal.	Free	6 10/	5 10/	5 10 0	5
Galv. Corr. 24g.	20/ 60/	26 10/	26	26/10	28 15/	200-gal.	F., 10%	3 10/	3	3 10 0	3 10 0
Orb 25 g	...	...	...	...	...	Tubing—	...	...	...	...	...
"	...	...	...	...	...	Black, up to 3"	...	55 off list	55% off	58% off	List 45% off
Phoenix Cr.	20/ 60/	30/	26	27 5/	28 15/	" 3 1/2 up to 3"	27 1/2	50	60% off	35 off	5% on
Galv. Plain 24g.	...	...	26 5/	28	27	Galv. up to 3"	27 1/2	40	55% off	46% off	40% off
Queen's Hd.	...	...	25 15/	27 15/	26 10/	" 3 1/2 up to 3"	27 1/2	...	37 1/2 off	20 off	Less 5% off
Phoenix Cr.	...	...	...	...	...	Steam, up to 3"	...	...	5% off	37 1/2 off	5% on
Fleur-de-lis	...	...	...	...	...	" 3 1/2 up to 3"	...	...	10% on	20 off	25% off
Other	...	...	...	...	...	Wr'ght boil.	...	...	...	...	List
Sheet	F., 125/	26 basis	25 basis	25/15	26	Explosives—	F., 5%	1/-	10 1/2	1/-	1/1
Black	...	B26, G34 5'	26 10/	...	19	Hall's C.C.	10%	10 1/2	10 1/2	11 1/2	1/1
Baldwins	...	...	...	...	...	Curtis's	...	10 1/2	10 1/2	11 1/2	1/1
Plate	F., 120/	17/- basis	15 basis	15	15 10/	Chilworth's	...	10 1/2	10 1/2	11 1/2	1/1
Steel	...	19/6	21	19	20/-	Sporting	15%, 25%	3/6, 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/
Girder	...	...	...	...	...	Diam. S'less	...	10/	8/ to 8/6	8/3 to 8/6	5/
Fencing Wire	F., 120/	18 5/	18 5/	...	...	Amberite	...	8/6	7/ to 7/6	6/9 to 7/6	75/
American 8	...	19 5/	19 5/	...	...	Blast'g Gel.	F. 5%	72/6	74/6	74/6	78/6
Austra'n Bl.	...	14 2/6	14	15 10/	14/7/3	Gel. Dyna.	...	65/	66/	66/	71/-
Galv.	...	15 18/	16 5/	18	16/1/6	Gelignite	...	56/ to 60/	56/ to 59/8	54/6 to 58/6	62/ to 66/
"	...	16 9/	17	19	16/12/8	Dynamite	...	51/ to 57	51/ to 57/	46/6 to 51/6	58/ to 102/
"	...	18 12/6	18 10/	20/ 5	18/14/6	Detonators	15%, 25%	55/	55 to 60/	60/ to 85/	90/
Barbed Wire	68/ 180/	24	...	...	...	Shot—Chilled	5/ 6/	63/6	61	71/	...
Amern. 12-g.	...	25 10/	...	...	...	Australian	...	61/	56	68/	...
Austn. 12-g.	...	24 10/	23 10/	24	24 6/6	Cyanide Pot.	Free	1/4	1/6	...	1/6
" 13-g.	...	26	24 10/	25	12 1/2-25/7/6	Quicksilver	Free	7/6	5/	5/8	8/6
" 14-g.	...	...	...	26 10/	26 7/9	Sash Weights	35%, 45%	15/	18/	16/6	18/6
Wire Netting	F., 200/	£48/15/0	36 15/	48/15/	...	Sheep Shears	F., 10%	62/6	65/	60/	60
42 x 1 1/2 x 17	per. ton	£39/ 5/3	29	38	34/ 5/3	Cement—Imp't'd	20%, 30%	21/ cask	21/	21/-	21/ cask
42 x 1 1/2 x 18	...	£41/16/0	49 15/	45	41/16/	Aust. (bags)	...	...	18/	7/-	6/6 bag
42 x 1 1/2 x 17	...	£33/ 2/0	41 10/	33 10/	33/ 2/	Plaster, Imp.	1/6, 2/c	37/6 K.W.	35/	47/6	50/ cask
42 x 1 1/2 x 18	...	£41/16/0	34	...	41/16/	Slates (20 x 10)	30%, 40%	Pixie 35/-	8/	9/3	18/ bag
36 x 1 1/2 x 17	...	£33/10/6	35	...	33/10/	White Lead—	8/ 10/ or	...	63/6	63/	57/6
36 x 1 1/2 x 18	...	£35/13/0	28	...	35/13/	Imported	25%, 30%	...	57/	59/	55/6
36 x 1 1/2 x 18	...	£29/10/0	22 10/	28	28/ 9/3	Australian	...	...	70 to 100	...	72/ to 80/
Nails—	...	...	...	...	...	Zinc White	20%, 30%	...	...	...	Colonial 56/
Horseshoe	12/ 15/	Less 10%	to 1/lb.	1/ less 10%	List Price	Oils—	...	...	...	...	...
" Austn.	...	...	List	...	...	Linseed (raw)	9d., 1.	R5/3	5/6	Drs., 5/9	5/2
Wire	5/6, 8/	28/6 basis	18/ to 20/	24/6 to 35/	29/- basis	Imported	...	C4/8 D5/8	C., 4/	Drs., 4/2	4/6
" Austn.	or 25/85%	...	...	...	...	Australian	...	...	...	...	...
Roofing	5/6, 8/	65/- cwt	65/cwt., 9/6	9/-	11/	Colza	6d., 8d.	...	6/-	...	...
Even den	...	...	...	...	38/	Burning	9d., 1/	C 6/6	6/3	6/9	6/10
Lead-head	...	...	...	...	...	Castor—	...	...	8/	...	10/
Block Tin	Free	£232/10	250	238/	3/	4-cases	...	...	13/6 to 14/6	13/	12/6
Tin Plates	F., 10%	...	...	...	...	China	2s., 2/6	...	8/6 to 10/	...	12/6
28 x 20	...	112's 60/-	62/6	112's 52/6	27/	Cotton seed	6d., 8d.	...	13/	13/6 to 14/6	13/
I.C. Coke	...	35/-	70/	...	42.	Kero.—C.O.R.	Free	...	13/	13/6 to 14/6	12/6
I.X. Coke	...	...	...	...	...	Laurel	...	...	4/9	4/10	4/3
Pig Lead	Free	25/6	25	29	37/10	Light of Age	F.,	...	...	2/8	2/6
Austn.	...	...	...	...	...	Pennant	1d., 1d.	...	...	3/4	3/-
Sheet Lead	10%, 20%	39/	50	43/6	49/	Turpentine	...	...	...	...	...
Dampcourse	...	4 1/2 6/6	48	...	...	Substitutes	...	...	...	...	...
2 lb.	...	4 1/2 9/9	47	...	...	Shellac	6d., 9d.	...	...	...	...
3 lb.	...	...	...	...	...	Whiting—	...	...	...	...	...
Lead Pipe—	10%, 20%	...	47 10/	46 5/	58/6	English	...	8/-	8/6	9 10/	£12 ton lots
1/2 to 2in. coils	...	...	52	48 15/	60/	Colonial	...	6/3	4/9	5/	...
Lengths to 5'	...	...	51	48 10/	57/	Resin, G grade	Free	32/6	32/-	28/	29/6
Compo. 1/2" & up	...	...	...	...	...	Carbide—	80/ 150/	...	...	...	...
Copper—	...	...	70	78/	10d.	" I X L "	...	32/6	27/ 6	29 5/	29 7/6
Ingots	...	1/5 1/2	1/7	1/8	1/8	Scandinavian	...	34/-	32/10	33 10/	33
Sheet	25%, 40%	...	...	...	...	Canadian	...	...	...	...	...
Brass	...	1/3	1/2 to 1/6	1/6	1/6	Japanese	...	...	...	...	...
Sheet	...	...	...	...	...	Bluestone	100/ 200/	...	...	...	...
	...	...	...	...	...	Macclesfield	...	37/6	36/-	...	40/
	...	...	...	...	...	Australian	...	36(1 cwt c/s)	...	37/6	...
	...	...	...	...	...	Japanese	...	...	...	...	...
	...	...	...	...	...	Stock Tar, 42 g.	25%, 35%	...	1/5	60/-	...
	...	...	...	...	...	Woolpacks—	Free	...	...	...	...
	...	...	...	...	...	42 x 1 1/2	...	4/8	6/	5/9	...
	...	...	...	...	...	54 x 1 1/2	...	...	4/9	4/9	4/9
	...	...	...	...	...	Corn sacks—	Free	10/7	11/	11/6	11/9
	...	...	...	...	...	2 1/2 lbs. (Oats)	...	8/6	8/6	10/-	10/7
	...	...	...	...	...	2 1/2 lbs	...	...	...	...	...
	...	...	...	...	...	Branbags	Free	...	...	...	...

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

Mr. Alfred Somerset, manufacturers' representative, will vacate on June 30 his showrooms at Dak-ing House, Rawson-place and remove to Reliance House, 139 Clarence-street, Sydney.

Firms Registered.

Miller & Co., crockery merchants, 732a Harris-street, Sydney; proprietors: Peter H. Miller and Henry Conradi.

A. Wyld, brush manufacturer, 127 Eveleigh-street, Redfern; proprietors: Wilfred J. Wyld, Ernest H. Wyld and Allen Wyld.

Commonwealth Arms & Sports Co., dealers in sports materials, etc., 11 Rowe-street, Sydney; proprietor: Sidney G. MacDonell.

Bell's Bargain Stores, hardware, crockery and fancy goods dealers, etc., School of Arts Buildings, Cessnock; proprietor: Herbert S. House.

Stewart's Nonpareil Incubators, manufacturers of incubators and brooders, 320 Unwin's Bridge-road, St. Peters; proprietor: Charles E. Bonner.

Company News.

Ayers & James Pty. Ltd. have moved from York-street to Turner House, 24 Jamieson-street, Sydney.

Keyless Lock Manufacturing Co. Ltd. announce that the company is being wound up. Conrad F. Horley is the liquidator.

Frazer & Best Ltd. announce that the capital of the company has been increased from £50,000 to £100,000 by the creation of 23,250 £1 preference and 26,750 ordinary £1 shares.

New Zealand

Company News.

G. F. Drury & Co. Ltd. have been registered with a capital of £400 in £1 shares. Objects: To carry on business of ironfounders, mechanical engineers, etc., now carried on by G. F. Drury. Subscribers: G. F. Drury and A. J. Drury. Office: 173 Montreal-street, Christchurch.

New Zealand Stove Co. Ltd. have been registered with a capital of £1200 in £1 shares. Objects: To manufacture and deal in gas and electric stoves, radiators, and general incidental. Subscribers: M. F. Judd, Alice Manks and Edith M. Manks. Office: 10 Leeds-street, Wellington.

Bryant Safety Catch Syndicate Ltd. have been registered with a capital of £800 in £1 shares. Objects: To adopt and carry into effect an agreement to acquire the letters patent of like privileges already granted for an invention relating to an improved

safety device for door locks. Subscribers: R. H. Bryant, A. Kennedy, F. H. King, F. G. Smith, J. W. Preen, E. C. Ayres, H. D. Preston, M. E. Bryant, C. W. Webster, N. A. Kilgour, V. J. Forbes, J. M. Stickings, C. W. Don, G. Trott, W. H. Jaquier, J. S. Herron, G. F. Smythe, J. Feely, N. Feely, C. S. Bruce, G. Reid and T. J. Tozer. Office: 205 Stafford-street, Timaru.

Queensland

Thomas Best & Co. Ltd. have been registered with a capital of £5500 in £1 shares. Objects: To take over and continue the business now carried on at Woolloongabba under the style of Thomas Best & Co. and all or any of the assets and liabilities in connection therewith, and to carry on the business of general merchants, plumbers, tinsmiths, gas-fitters, ironmongers, engineers, builders, etc. Subscribers: Hannah Best, Violet R. Johnson, Maud Best, Edgar J. Johnson, Frank M. Allsop, William H. F. Cowdry and Frederick W. Mole. Reg. office: Logan-road, Woolloongabba, South Brisbane.

South Australia

Martin Bros., ironfounders, Walsh-st., South-wark, announce that William Martin (deceased) has retired from the firm.

Firms Registered.

J. G. Clark & Co., general storekeepers and commission agents, American River, Kangaroo Island; proprietor: James Gilbert Clark.

Armco Australian Agency (South Australian Branch), representing American Rolling Mills Co., c/o Bown & Dixon, Worando Buildings, Grenfell-street, Adelaide; proprietors: Edward Bown and Francis Gray Fuss.

The Crude Oil Tractor Co., importers and salesmen of tractors, Edments Building, Rundle-street, Adelaide; proprietors: Percy Strangeways Day Barker, Amos McBurney, Maurice Gunsburg and Alfred Samuel Haigh.

Company News.

Thomas & Wall Ltd., hardware merchants, have removed from Chesser-street to 86 Pirie-street, Adelaide.

Mechanical Supplies Ltd. have removed from 69 Richards Buildings, Currie-street, to 69 Grenfell-street, Adelaide.

Crystal Glass Manufacturers Ltd. announce that a new company is being formed with an authorised capital of £30,000 in £1 shares. Chas. F. Adams, Brookman Buildings, Grenfell-street, Adelaide, is the secretary (pro tem.).

Noarlunga Potteries Ltd. have been registered with a capital of £20,000 in £1 shares. Objects: To adopt and carry into effect a certain agreement made for the purchase of certain lands, buildings and other property, and to establish and carry on all or any of the businesses of manufacturers of and dealers and workers in bricks, tiles, pipes, pottery, earthenware, china, cement, lime, plaster, slate, stone, etc. Subscribers: Walter Furler, William Charles Furler, Charles Leslie Furler, Arthur James Dungey, Edwin James Potter, Archibald Coughtrey White, George Osborne Watts, Gerald Ward and George Norton Martin. Reg. office: Dapidinda-road, Noarlunga.

Tasmania

Jackson's Motor Spring Manufacturers, Launceston, have been registered under the Firms Act; proprietors: Jackson's Lock & Brass Works Pty. Ltd.

Victoria

Mr. Ernest M. Johnson, manufacturers' representative, has moved to the fifth floor of Chancery House, 440 Little Collins-street, Melbourne.

Humble & Sons (trustees of William Humble, deceased), engineers, etc., Vulcan Foundry, Geelong, announce that the business is for sale by private contract.

M. Dalley & Co., machinery merchants, 31 Bedford-street, North Melbourne, announce that Edward Rayner has retired and that Clare Dalley and Ida Currie have become members of the firm.

John Dynon & Sons, importers of china, glass, earthenware and fancy goods, 406-08 Lonsdale-street, Melbourne, announce that Daniel Basil Dynon has died and that Mrs. Elizabeth Dynon, John Joseph Dynon and Abigail Mary Dynon have become members of the firm.

Firms Registered.

The Dominion Lamp & Radiator Works, 319 Latrobe-street, Melbourne; proprietor: James Edmund Robinson.

Brighton Hardware Store, ironmongers, china and glass dealers, 332 Bay-street, North Brighton; proprietor: Arthur Upton, trading as A. Upton & Co.

Company News.

Allied Austral Agencies Pty. Ltd., of 393 Flinders-street, Melbourne, are the successors of L. Banister Pty. Ltd. as machinery merchants and importers.

The Australover Machinery Co. Pty. Ltd., iron founders, mechanical engineers, etc., have been registered with a capital of £10,000 in £1 shares. Subscribers: Albert Edward Hassall and Aaron Patkin. Reg. office: Peacock House, Bourke-street, Melbourne.

J. S. Avery Pty. Ltd. have been registered with a capital of £20,000 in £1 shares. Objects: To acquire as a going concern the business of an engineer and boiler-maker carried on by Joseph S. Avery. Subscribers: Joseph Avery and Edwin Nicholas Warren. Reg. office: Moore-street, South Melbourne.

Salmond & Spraggon (Australia) Ltd., general dealers, merchants, etc., have been registered with a capital of £50,000 in £1 shares. Directors: Percy Spraggon, Edwin Salmond and John Smith Wilson. Head office: 218 Kent-street, Sydney, N.S.W. Agent in Victoria: Norman Montague Sheppard, 31 William-street, Melbourne.

Janet Gray Pty. Ltd. have been registered with a capital of £30,000 in £1 shares. Objects: To acquire as a going concern the business of general storekeeper carried on by Janet Gray at Lake Boga and Mystic Park. Subscribers: Janet Gray, Alexandra Daisy Gray and Allan Gray. Reg. office: Kerang and Marraboor streets, Lake Boga.

R. V. Bristol & Co. Pty. Ltd., manufacturers' representatives, whose head office is at Danks' Buildings, Bourke-street, Melbourne, will soon be in occupation of their new sample rooms at that address. Mr. W. C. Blackmore, for many years secretary to the company, has been appointed manager of the hardware department. The firm are agents for

Scholefield, Goodman & Sons, buyers and shippers, of Birmingham.

Western Australia

Mr. A. M. Duncan has purchased the business of Mr. J. J. Evans, draper and ironmonger, Witchcliffe.

Westral Foundry & Manufacturing Co., East Perth, have opened a shop at 515 Wellington-street, Perth.

A. H. McDonald & Co., machinery merchants, Richmond, Victoria, have opened a branch business at 35 Barrack-street, Perth.

United Implements Ltd. have been registered with a capital of £150,000 in £1 shares. Reg. office: 14 First Floor, A.M.P. Chambers, Perth.

Parkinson & Cowan (Australasia) Ltd. (incorporated in London, England) have their registered office at 77 King-street, Perth. Charles L. Stawell, Arthur S. Hardwick and John C. Forman, of Perth, are the attorneys.

Parkinson Stove Co. (Australia) Ltd. (incorporated in London, England) have their registered office at 77 King-street, Perth. Charles L. Stawell, Arthur S. Hardwick and John C. Forman, of Perth, are the attorneys.

Agents and Agencies

Scott, Henderson & Co., of 49-53 Young-street, Sydney, are now agents throughout Australia and New Zealand for Von Hagen & Arns, of Elberfeld, Germany, whose range covers every conceivable hardware line made in that country. Mr. George Craig-Brown is the interstate representative.

Allied Austral Agencies Pty. Ltd., of 393 Flinders-street, Melbourne, are agents for the following:—Hulls Boston Ropery Co., Hull; the Manhattan Rubber Manfg. Co. (Ropes, "Mandor" Beltings); Ronald Twist & Co. (S.E.A. Packing Rings); the Ford Chain Block Co. ("Chain Hoists"), and the Maxa Preservative Co. ("Maxa" belt paste).

Travellers

From Europe.

Mr. Alfred Somerset, Daking House, Rawson-place, Sydney, returned by the R.M.S. "Nakunda" on May 21 after a six months' business visit to England and the Continent.

Mr. E. D. Groves, sales manager for Joseph Rodgers & Sons Ltd., Sheffield, who is on a world tour in the interest of Rodgers' cutlery, reached Sydney early in May after having made an exhaustive tour of India. He has also visited Burma, Siam, the Federal Malay States, Sumatra and Java. Mr. Groves expects to remain in Australia from four to five months, during which time he proposes to go as far north as Cairns and visit the principal centres in all the States. His objective is to study the general conditions here with a view to improving trade for his firm, and later he will visit New Zealand, returning to England by way of the United States and Canada.

Machinery

New Wrench.

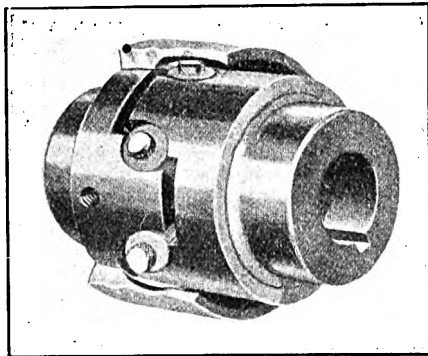
The Billings & Spencer Co., of Hartford, Conn., U.S.A., are responsible for a new wrench known as the "Klose-Kwarter." It is intended for service in places that restrict the use of an ordinary wrench through lack of space.

It is a double-headed wrench, the openings of which are set at a 75 deg. angle, the jaws being narrow and pointed with their heads. Both heads are on the same side of the wrench, and afford a comfortable grip and good leverage.

The wrench is made in a range of sizes to suit S.A.E. and U.S. standard nuts. For automotive use they are packed five in a kit, thus giving an assortment of ten openings, varying in size from $\frac{3}{8}$ to $\frac{1}{2}$ in. The wrenches are drop-forged from chrome-molybdenum steel.

Flexible Coupling.

Flexibility five times as great as ordinary flexible couplings is claimed for the L.R. flexible couplings being made by the Lovejoy Tool Works, of 319



West Ohio-street, Chicago, Ill., U.S.A. Angular misalignment up to $7\frac{1}{2}$ deg. in each direction, parallel misalignment of $\frac{1}{16}$ to $\frac{1}{8}$ in., and endwise shaft movement of $\frac{1}{4}$ to $\frac{1}{2}$ in. are possible.

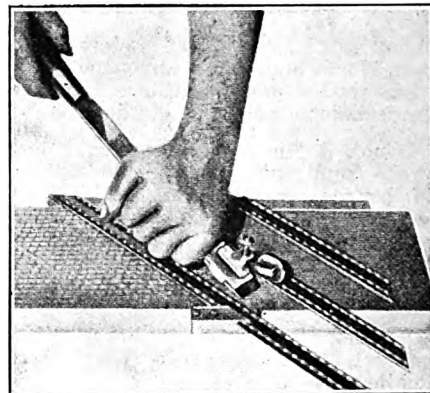
This is a jaw coupling with loosely floating resilient rollers, assuring a rolling contact that transmits the force by compression and makes a safe and shock-proof coupling. The coupling is said to be noiseless, perfectly balanced, economical in application, smooth running, reversible, and interchangeable.

The resilient rollers are radially disposed and float loosely. They are placed between jaws which extend from the flange parallel with the shaft. Either solid rubber or rubber-covered metal rollers are used as conditions require. An external sleeve prevents idle rollers from flying out under centrifugal force. The coupling may be used for rotation in either direction, half the rollers being under compression, and the other half idlers. Inasmuch as the force is transmitted by compression, and a relative movement of the shaft is accomplished by rolling movement of the power-transmitting elements, no end thrust or radial load can be transmitted.

The coupling is available in eleven sizes from $\frac{3}{4}$ to 5 in. in maximum diameter.

New Spotter.

The Anderson Bros. Manufacturing Co., of Rockford, Ill., U.S.A., have perfected a spotting tool for the processes known as frosting, or flaking.



The device consists of a set of two spotting tools with various sizes of guides for handling different widths of work. The set consists of one long-handled spotter for heavy work, and one short one.

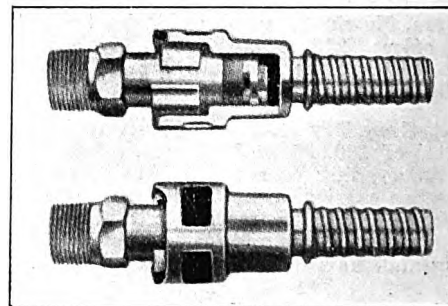
As the tool is pushed across the guide, which is placed on the work, a rocking action is given to the blade, causing it to give the half-moon effect on the work. By adjustment of a small thumbscrew, a variety of different-shaped spots may be obtained.

The advantages claimed for this tool are that the work can be done much faster and that inexperienced operators can be employed.

Air Hose Coupling.

The Robinson Machine Co., of Muskegon, Mich., U.S.A., have placed on the market the "Superior" plain-type hose coupling illustrated. It is made without springs or loose parts and is connected with one-quarter turn.

A special treated leather gasket is employed, and is expanded by a vee-shaped ring when the air pressure is applied. This is claimed to make it a pressure-seated air-hose coupling, and positively



air-tight under any pressure conditions. The gasket is claimed not to stick, corrode nor pull out of the coupling, and can be adjusted for wear by a slight turn of the nut. The couplings are made interchangeable in $\frac{3}{4}$ in., $\frac{1}{2}$ in., and $\frac{3}{8}$ in. sizes.

Screw Jacks.

Templeton, Kenly & Co. Ltd., of 1020 South Central-avenue, Ill., U.S.A., announce an improved line of screw-jacks. Instead of a solid frame, these jacks are built with an open handhole in the side, thus permitting the operator to have a clear view of the screw at all times. The carrying handle is formed as a portion of the handhole, and is braced and ribbed to add strength to the jack.

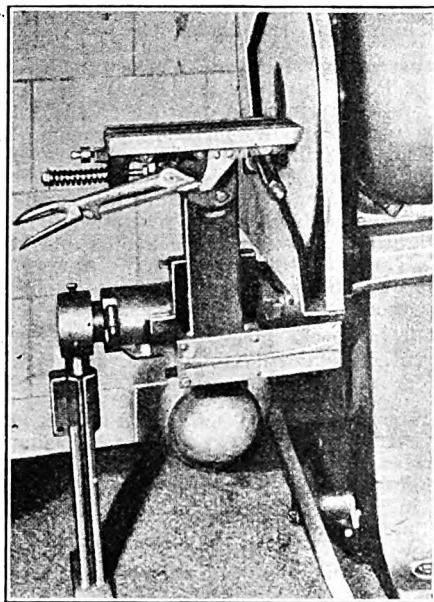
The screw and head are forged from a single piece of steel, while the standard and cap are made of grey iron. The base is formed with an extra ribbing, providing stability and strength.

Another feature is the "Duco" lacquer finish, each size being lacquered a different colour for identification. Thirty-two sizes are available in all, ranging from 5 to 36 tons capacity, and from 8 to 29 in. closed height

Mechanically Oscillating Work Table.

The Gardner Machine Co., of Belat, Wis., U.S.A., offer a mechanically oscillating work table, intended to eliminate the hand labour required for operating standard grinding machines. The device consists of a table, similar to that regularly used on a disc grinder, connected to a worm gear driving mechanism at the machine, which can be driven by motor or belt. The gear box contains the proper reduction gears for the drive. In operation the table rocks or oscillates automatically on the rocker shaft of the grinder, causing several passes of the work across the face of the grinding disc.

The work is fed to the grinding disc by means of a spring tension which can be adjusted to suit the area of the piece being ground. An adjustment is

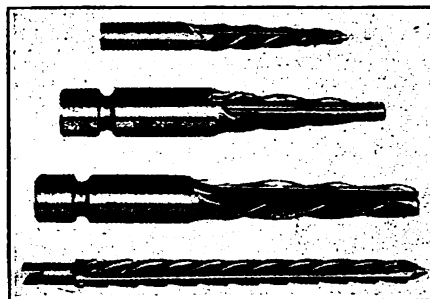


provided in the connecting links to permit varying lengths of the travel of the table across the grinding face. The rocking mechanism is disengaged by pressure upon the treadle, and the table is then tilted forward into the loading position. To return it to the grinding position and again engage the rocking mechanism, the operator need only lift a lever.

These oscillating table types are built for four sizes of hand-operated single-spindle disc grinders, viz., 20, 26, 30 and 40 in., and may also be applied to any of the Nos. 4, 6, 7, 7½, 8 or 50 Gardner grinders. It is claimed that the device will double the production from these machines.

Taper Reamers.

The Gammons Holman Co., of Manchester, Conn., U.S.A., have placed on the market a tap reamer known as the "Duplex." It will be made to order



in all except the very small sizes, up to 3 in. diameter, and of any desired taper.

This reamer has a single straight blade extending over its full length, while the remaining blades are disposed in an uninterrupted helix of left-hand lead. The combination of straight and helical blades is claimed by the makers to result in a chatterless reamer capable of producing exceptionally smooth holes.

The standard helix angle adopted is 52 deg., at a point at the middle of the cutting length. The angle decreases towards the large end and increases towards the small end in accordance with the degree of the taper, the lead remaining uniform. The tool can be supplied with greater or less helix angle if desired.

The reamers are made for machine or hand use, with any size or shape of shank that may be ordered. Unless otherwise specified, they will be made of high-speed steel. The larger sizes for machine use will have an oil hole extending through the centre, so that oil may be delivered under pressure at the point. This feature is of advantage in reaming blind holes, since the returning stream of oil will wash the chips out clear of the hole.

Dial Gauge for Sheet Metal.

The B. C. Ames Co., of Waltham, Mass., U.S.A., have placed on the market a dial indicator gauge for the accurate measurement of sheet metal. The design of the frame and the position, at an angle of 30 deg., of the dial are intended to facilitate the application of the gauge and to enable the operator to take the reading without moving from his normal position.

The frame is of such shape that it is easily grasped by the operator. The grip of his hand depresses the trigger, and thereby opens the gap between the measuring spindle and the anvil. When the grip is released, the spring of the indicator brings the measuring spindle into contact with the work, and the thickness of the latter can then be read directly from the dial.

The connection between the trigger lever and the measuring spindle is floating, so that when taking a measurement the spindle is entirely free of the influence of the lever. A stiff coil spring actuates the lever to grip the work with considerable pressure, and thereby levels it upon the anvil, so that the reading is obtained with the measuring spindle presented squarely to the material to be measured.

The gauge has a capacity for materials up to ½ in. thick, and the dial reads directly in quarter-thousandths.

Engineering and Other Tools and Supplies

Buyers' Notes for Retail Dealers

Sydney

William Adams & Co. Ltd., of King and Clarence streets, Sydney, offer a wide range of engineers' tools and other supplies. Included in the list is "Scandinavia" English-made cotton woven belting, specially impregnated to withstand the effects of water and changes of temperature. The "Steelace" belt fasteners, new to Australia, are sold at competitive prices.

The firm have recently been appointed sole Australian agents for Thomson (Kinning Park) Ltd., of Glasgow, makers of patented self-sustaining screw pulley blocks with double-threaded worm gear and Spurton spur gear. The adaptation of the screw principle to this block not only gives greater lifting power with less labour, but ensures safety from accident.

Vickers high-speed drills, circular saws, hacksaw blades, and tools of all descriptions are shown, the firm holding the sole Australian agency for all the lines mentioned.

"Stopskal" boiler compound, being non-poisonous and containing no objectionable ingredients, may be used in breweries and other factories, entirely doing away with the necessity for the use of zinc blocks. It removes scale and grease, after which a dark glaze forms on the boiler plates and tubes, thus preventing pitting, corrosion, and galvanic action.

The "Perfectum" oil filter, an Australian invention, is simply constructed. Requiring practically no attention, it clarifies dirty oil and makes it fit for use in the machine again.

The "Craft" self-adjusting wrench is a useful tool available in four sizes. It ratchets freely and automatically adjusts and relieves itself on pipes, bolts, nuts and rods.

The Keystone Mfg. Co.'s "Soc-Kit" spanners come in a metal box containing eight hexagon sockets, fitted with a reversible ratchet so that the operator can either loosen or tighten the bolts. A special extension standard can be attached if desired, permitting otherwise inaccessible nuts to be reached.

Jno. Hy. Andrew (Australia) Ltd., of 259 Clarence-street, Sydney, market in this part of the world the steel and other manufactures of Jno. Hy. Andrew & Co. Ltd., Sheffield. Their "Toledo" steel is well known the world over.

One branch of the works is devoted to scientific investigation in the field of steel alloys. A recent result is "Sico" non-tempering steel for pneumatic chisels, snaps and similar tools. It is claimed that tools made of this steel not only outlast others, but that heavier work can be undertaken, production increased, and the cost of renewal and re-tempering reduced.

"Toledo" oil-hardening, non-shrinking die and tap steel is another important development, whereby the shrinking in the hardening process, which leads to the scrapping of expensive dies and long taps, has been overcome.

"Mascolite," a shock absorbent extensively used in England as a bedding or cushion for rails, bridge work, columns, machinery, power hammers and

presses, is handled by the firm. It serves to reduce and correct shocks and vibration, and deadens sound.

The Austral Engineering & Supply Co. Ltd., of 490-92 Kent-street, Sydney, carry high-speed steels manufactured by Sanderson Bros. & Newbould Ltd., of Sheffield, a feature being made of the "Saben" brands, the latest of which is the "Saben Kerau," a super-quality high-speed steel made to fill requirements where heavy duty is called for. It is specially useful for circular knives and saws for cutting up tough fibres of every class, such as asbestos and rubber, also for fine wire drawing dies and knives, and glass-cutting knives.

Within the last few years the firm have built up a trade in solid high-speed planing knives made from both 14 per cent. and 18 per cent. tungsten high-speed steel. These possess decided advantages over knives made by the older methods. They are stronger and more lasting, and that both in fixed and rotary types.

The "Keraunos" hacksaw is a new departure in metal cutters. This, also, is of tungsten steel, and cuts at very high speed. With the sole exception of the $\frac{1}{2}$ in. widths, the blades can be re-sharpened.

The Australian Wire Rope Works Ltd., whose factory is at Port Waratah, are makers of steel wire ropes for all purposes. A feature of the work is a complete testing plant, including tension, torsion, and bending machines for testing wire ropes up to 100 tons. The ropes produced range from $\frac{1}{2}$ in. to 7 in. in circumference, comprising all constructions up to seven strands of thirty-seven wires inclusive, with weights of between 7 and 8 tons and breaking strains as high as 180 tons. In the mining section special provision has been made for the manufacture of haulage and winding ropes.

In addition to the larger varieties of rope, the manufacture of small flexible cords is undertaken to suit different purposes.

Mr. Harry Boyle, of 55 York-street, Sydney, carries "Pexto" wrenches in a variety of shapes and sizes, including pipe wrenches with wood or steel handles, and ranging in size from 6 to 8 in. Notable is the thin jaw pipe wrench, allowing the tool to be used in narrow openings where the ordinary pipe wrench would be impossible. Adjustable angle wrenches are made on the pattern of the popular engineers' end wrench, and they can be used in practically every opening possible to the end wrench.

A double-end wrench is specially made for working on different sizes of bolts and nuts and where only limited space and weight are available in the tool box. The "Samson" wrench is made with an iron handle on the Stronghold type of construction, and stronger still is the solid steel, No. 300, solid forged from end to end and sold at a slightly higher cost. A series of radio socket wrench sets are also available. A sheet metal reamer and socket wrench is made of high-grade steel and has a sharp point for pricking through light material and reaming holes to ordinary size required for fitting dampers to pipes, and for general rough punching where a hand punch is not available.

Briscoe & Co. Ltd., of 383-85 Kent-street, Sydney, have large stocks of wrenches, including Ellin's "Footprint" types, in sizes from 5½ in. to 16 in., and the Walworth make, from 6 in. to 24 in. The Champion drilling machines are well to the fore, a new model being No. 106. Peter Wright vices, used for heavy iron work, are hand forged and consequently can be used as anvils if desired. The Dawn Mfg. Co.'s vices are made for lighter work, and are cast iron, but they are strengthened with steel jaws, the sizes varying from 2 in. to 8 in. Ball pein engineers' hammers are available in sizes from ½ to 3 lb., and can be had with or without handles. Sledge hammers can be supplied with single or double faces, the sizes being from 3 lb. to 6 lb. The Ballarat style of miner's pick, single-ended, have a high reputation throughout Australia, and are available in sizes from 3½ to 5 lb.

Bottle jacks, with special lever attachments, have a lifting capacity of from two to ten tons. Of special interest are the London pattern pulley blocks with single, double and treble shieves.

Broomfields Ltd., of 152 Sussex-street, Sydney, can supply the No. 3000 improved socket wrench, which is worked on the ratchet principle, thus avoiding the necessity for taking the wrench off after every turn. "Stillson" wrenches are also stocked, as are parallel vices, and breast and hand drills. Worth of note is the firm's quick-drying paint for use in ships' holds and other ironwork. Peacock & Buchan's anti-corrosive and anti-fouling composition for ships' bottoms is available in large or small quantities.

Bullivants' Australian Co. Ltd., of 331-33 Kent-street, Sydney, carry stocks of Bullivant wire ropes and other goods manufactured by the parent company in London. Among the lines, other than steel wire ropes, with which their name is associated, are rope-cutting machines, slings, submersible motors, winches, blocks, and pulleys.

The Eagle & Globe Steel Co. Ltd., of 379 Kent-street, Sydney, carry stocks of motor car steels, steels for highly stressed parts and for aeroplanes, as well as tool steels of every description. As it is impossible to produce cast steel of an average temper which is suitable for all purposes, the firm put on every bar of ordinary engineers' tool steel a label showing the principal purposes for which that particular steel is suitable, and the colour of the label indicates the colour to which the steel should be tempered.

"Double Griffin" brand super chisel steel can be hardened with comparative ease. The firm's other steels of special quality include "Kite" brand oil-hardening non-shrinking tap steel, "Triple Griffin" tool steel for general purposes, and "Balfour" special hot die steel, the last-mentioned being suitable for hot work, especially hot punching.

The Engineer & Sawmill Supply Co. Ltd., of 32 Clarence-street, Sydney, have taken over the sole State agency for the rubber belting of Chas. McIntosh & Co. Ltd., Manchester, and elsewhere. Their range comprises all kinds of driving belts, conveyor and elevator belts.

The circular saws, machine knives and high-grade steels, of Spear & Jackson Ltd. are also handled on a selling agency basis with good results.

Among other lines stocked are "Vanguard" lathes, drills, and hacksaw machines, as well as a full range of road contractors' and council requirements, and tools and machines for engineers and sawmillers. The firm's "Tessco" line of oils and greases has proved popular with engineers.

Farleigh, Nettheim & Co., of 80 Clarence-street, Sydney, have lately added to their stocks several lines of engineers' tools and supplies. Special are the elec-

trician's pliers, tested to 5000 volts. The "King Dick" spanners, new to the firm, have the recommendation of adjustability to fit different requirements. The "Laco" adjustable wrench is made in 6, 8 and 10 in. sizes, of drop-forged steel with an adjustable screw near the jaws. Ahrem's "Good Line" 12 in. nickel-plated hacksaw frame with pistol grip is adjustable to any length required.

"Stillson" pattern pipe wrenches are available in 10, 11 and 14 in. sizes, the handles being all steel. From Ahrem also are nickel-plated ratchet bolt cutters which are said to cut accurately and in a great number of lengths, and to be especially quick in action.

W. S. Friend & Co., of 113 York-street, Sydney, give prominence to the Champion motor-driven brake and clutch re-lining machine, which removes old rivets and re-lines brake and bands and the like with either split or tubular rivets and also eliminates all hand work in replacing brake lining and clutch facing. A cutting-off block and chisel are furnished, which, without damaging the band itself, cuts out the old rivet and permits the lining to be speedily removed. A punch is also provided for inserting rivets, a special rosette which splits and spreads tubular rivets six ways, and a straight rosette to handle split rivets. A ½-h.p. motor operates the drill and countersink, and a treadle operates all the other tools, the use of a second machine being unnecessary.

"Champion" electric stocks and dies for bolts and nuts will cut a thread with one turn. The dies are adjustable, and an adjustable thread tap wrench is supplied with each set. "Champion" drilling machines are in stock in a dozen styles and made for as many different purposes. "Champion" blowers range in size from those for blacksmiths' requirements to larger sizes where a great volume of blast is required, the latter being worked by electric power.

Goodall & Co. Ltd., of 301-05 Kent-street, Sydney, are making a speciality of the Buffalo oil-burning rivet forge, which consists of a welded steel oil tank, on which is mounted a fire chamber, the latter being made of a circular steel plate housing held between cast iron top and bottom plates by means of three sturdy screw bolts. The lining is a one-piece circular fire brick, 2 in. thick. The oil tank is tested under an air pressure of 125 lb. Air is supplied by means of a single connection which furnishes pressure for the oil supply as well as air for the atomizer. The forge burns kerosene or crude oil.

Attention is also given to the Armstrong spring cutting-off tool. Cutting off in a lathe, regarded as the hardest of lathe work, has been made easier by the tool in question. Its "goose neck" form gives the cutter a resiliency that takes up any chatter and keeps the work from climbing up on the tool—the cause of practically all cutting-off tool breakages. The tools are stocked in four sizes.

H. P. Gregory & Co. Ltd., of 74 Clarence-street, Sydney, have available the Pike Mfg. Co.'s "Handy Andy" tool grinders, designed specially for light grinding and sharpening in workshop or garage. The helical gears are machine cut, and they develop remarkable powers, besides running quietly and smoothly. The wheels are vitrified, and are fast and cool-cutting. The grinders are of pyroxylin enamel finish, which not only improves the appearance, but gives great resistance to ordinary wear and tear.

Another useful device is the reversible plier, No. 3348, a combination tool taking the form of a gas plier when its hands are held in one direction, and being converted into a regulation plier, with wire cutters when the hands are reversed.

Alfred Herbert (Australasia) Ltd., of 503-05 Kent-street, Sydney, are showing surface grinders, manu-

factured by the Lumsden Machine Co. Ltd., Gateshead, England. New is the Lumsden No. 82 segmental wheel surface grinder fitted with hydraulic table traverse. The machine is easy to operate, any speed from 3 to 40 ft. a minute being obtained by the movement of a single lever. Another noteworthy feature is the quickness of operation.

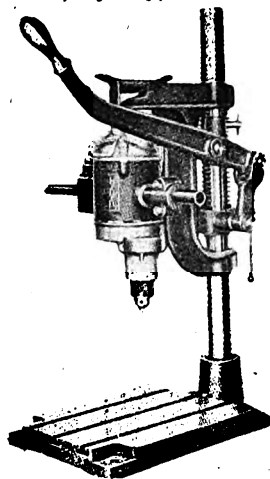
Another new device is a centre-driven railway wheel lathe, designed and built by Noble & Lund in collaboration with Alfred Herbert Ltd. The machine will deal quickly and accurately with any type of carriage or waggon wheels. It is capable not only of rough turning and profiling the hardest brake-hardened or sorbetic tyres with maximum feeds without vibration, but it has been proved under test that its rigidity is such that very light cuts with coarse feeds can be taken on hard tyres.

Lyon & Milling Ltd., of 62 Clarence-street, Sydney, are featuring the "Aetna" engineering wrench, a tool serving the combined purposes of a set of spanners and dies. Coming in a neat carton, the five spanners have ten openings, the sizes varying from $\frac{1}{4}$ in. to 1 in., and in the middle of each wrench is a die for cleaning rusty threads.

Prominence is also given to the "Farmer's Friend" and the "Telegraph" pliers. Fitted with gun-metal bearings, the former embodies a hammer, which makes the tool more useful. An additional advantage is that flanged riveting encloses almost the whole of the joint, making for easier working and preventing rust from getting into the working parts.

T. McPherson & Son, of 493 Kent-street, Sydney, are giving prominence to Parkinson's parallel high-grade engineers' vices, which are made of the best steel, and quick in action. The genuine Jenkin's valves and Stillson wrenches, both best-quality tools, are also stocked in large quantities. The well-known metal thread screws have now been added to the firm's lists, as also have the same brand of taps.

Noyes Bros. (Sydney) Ltd., of 115 Clarence-street, Sydney, stock Hisey electric drills, grinders and buffers. Included in the list are the universal motor hand drills, which will operate an alternating current and direct current of the same voltage. An important feature is that the electrical and mechanical design in these small machines is exactly the same as in the larger drills. The intermediate gear shaft is supported with a bearing at each end, a superior method to the single-bearing support. The vents are so placed that all the cool incoming air must pass over the commutator and brushes before being drawn through the motor and expelled. All the bearings, gears and other moving parts in the gear end of the machine are lubricated from the gear transmission case.



and expelled. All the bearings, gears and other moving parts in the gear end of the machine are lubricated from the gear transmission case.

Scruttons Ltd., of 161 Clarence-street, Sydney, are featuring the Atkins silver steel power hacksaw blades, designed to cut high-speed steel, shafting, bronze, brass, copper, lead and other solid stocks from the works in Indianapolis, U.S.A., of E.C. Atkins & Co. Inc.

John Shaw (Australia) Ltd., of 443 Kent-street, Sydney, on behalf of the parent company in England, carry stocks of steel wire rope of all sizes, and other metal cordage, down to picture wire. The

firm's wire ropes were among the first to be used for mining purposes in Australia and South Africa, and are also largely used in China, Japan, Russia, India and South America.

Their "Special Improved" is a very hard wire of high quality, suitable for mining ropes having to stand rough usage and great friction. The "Best" plough steel wire is not quite so highly tempered, and is suitable for many purposes where the higher quality would be too hard and expensive.

Warburton, Franki Ltd., of 307-15 Kent-street, Sydney, are showing a machine new to Australia in the "Skilsaw," a portable electric tool made by the Maltby Co., Chicago, U.S.A. Various models of these are available, any one of which will do all or more than the ordinary handsaw, but much faster. Model E, for example, a powerful saw, is equipped with tilting base for making bevel cuts. Roof cutting can be done by this feature as it provides quick cutting of the various parts. Having a "nip fence" attachment, a board may be cut to width without previous marking.

Melbourne

Blockey, Stone & Co. Pty. Ltd., of 268a Lonsdale-street, Melbourne, have on their shelves a good selection of "Pexto" brand braces, in a number of patterns. As with most tools, a feature of to-day is the supply of stands carrying half a dozen different types for counter display. These are always obtainable in this form as well as boxed.

The same applies to "Pexto" hammers and wrenches, which come on cards. This materially assists the salesman, and also serves to brighten the store. Almost all Stanley tools are included in a new shipment from this company.

Satisfaction is expressed in the trade with the chisels now coming from Chas. Taylor's Sheffield Tools Ltd. These makers are turning out a good line at a reasonable figure, and reports show the quality to be reliable. They are supplied in all patterns.

Spear & Jackson's and Disston's handsaws; Rabone's, Preston's, and Lufkin's tapes and rules; and Mathieson's bits, are all included in shipments just to hand. Bricklayers' and plasterers' requisites are kept in the brands of Joseph Tyzack & Sons, and Disston. Nicholson's files for all purposes, including those for woodworkers, are fully stocked.

In the engineers' section is a recently imported twist drill which has met with a good reception from users. The price is attractive, and several workshops speak well both as to the quality of the steel and the clean cutting edge. This is made under the "Star" brand.

Most dealers are familiar with Ahrem's lines. These are principally small handy tools which sell throughout the year, and the makers show discrimination in the carding of suitable appliances for the home user at popular prices. A long range of these is now opened, and a useful selection may be ordered by retailers.

An assortment of Stillson wrenches, on the same pattern in Walworth or "Pexto" makes may be had, either carded, or loose, Ellins "Footprint" spanners, in all wanted numbers, "King Dick" spanners, add a host of others are here also.

Attention is drawn to a good supply of "Ixon" stocks and dies and hand and breast drills. There is a fine range to choose from, and retailers will find them profitable to handle. "Primus" burning-off lamps in many designs should not be overlooked.

Briscoe & Co. Ltd., of 391 Little Collins-street, Melbourne, have an exceptionally large supply of all tradesmen's tools. The selection of augers and bits

includes Mathieson's, Gilpin's, Irwin's, Swan, and Ford's, while Marples' centre bits and Sargent's expanding bits are prominent amongst other brands. Taylor's and Mathieson's chisels are always on hand.

Of drills, the choice is wide, including hand, breast, bitstock, twist, bench and pillar designs, as well as Star wall drills. Carpenters' braces are in all grades and patterns, many lines being offered in addition to the well-known makes, suited for the buyer who demands a reliable article at a cheap price.

A number of good wrenches and spanners have been uncovered which should prove useful to stores. Single and double ended "Gedore" wrenches are always worth a place. The "Blitz" is another most handy type. It enables a firm grip to be taken, and the leverage gained is sufficient to "shift" the hardest nut. While it is self-adjusting, the "Blitz" offers the great advantage of leaving the nut uninjured. "Keystone" socket wrenches remain one of the most effective of the kind. The handle fits instantly into a socket, a set of half a dozen different sizes being supplied, the whole coming in a neat leather case. The ratchet patterns are in metal cases. Other sorts are the "Clyburn," Coe's, and agricultural wrenches of all sizes. Full ranges of stocks and dies for all purposes are available.

Of hammers the firm have every possible kind, from pin and tack varieties to the heavy quartz breaker. Carpenters' tools embrace every requisite of the trade. Spirit levels by Rabone and Sargent; Stanley mitres, gauges, planes and rules, the latter either in boxwood, steel or brass; handsaws of every kind in both English and American makes; screw-drivers, gimlets, bradawls; all complete as to qualities and sizes. Of special utility for plumbers and builders is a 12 in. rule and level, probably one of the best appliances of its kind. Another level is only 6 in. long; it can be fitted to a straight-edged board, and thus be used for any purpose as efficiently as a larger pattern.

The firm also make a feature of special tools for artisans, such as tinsmiths, plumbers, ironmoulders and metal workers generally.

Campbell, Walker & Co. Pty. Ltd., of 411 Lonsdale-street, Melbourne, in a comprehensive stock of general ironmongery, carry woodworkers' and carpenters' tools. In addition to the Stanley range of planes, levels and mitre boxes, many reliable lines are kept in Bleckmann's goods. This maker's braces, hacksaw frames, spirit levels, and a host of small tools such as spanners, pliers, and wrenches are available at moderate prices, and represent quite good value. Chisels are stocked in Taylor's various numbers.

A recent shipment includes Rabone's rules, in all qualities. Tiles are stocked in Nicholson's well-known range, which covers all needs of the woodworker, engineer, or mechanic. Disston's handsaws and tools of various kinds are also obtainable.

John Danks & Son Pty. Ltd., of 391-403 Bourke-street, Melbourne, carry all kinds of tools and appliances for the engineer, metal worker, wood worker, and builder. Carpenters' tools for all branches of the trade are available in British and American brands. Such names as Disston, Mathieson, Stanley, and Tyzack will suggest the many lines for which these makers are prominent.

A good section is devoted to woodcarving appliances. Amongst these are chip-carving knives, paring gouges for working circles, and special chisels of various patterns. Handy cabinets of chip-carving tools may be had, making a compact little set. Three sizes of these are listed.

Tyzack's turn out several good panel hand and rip saws made on the American principle, which have proved popular, while the same makers' "Abbeyle" tenon saws can be recommended for

household use. Disston's saws are in a very complete assortment, as also are Spear & Jackson's.

The number of planes obtainable for all classes of work is now legion, and enumeration would be impracticable. A catalogue issued by the firm will be found valuable for reference in this connection. Mention may be made of a range of grinding and sharpening tools for woodworkers' use, as well as rasps, drills, and boring appliances.

In the engineering department many useful lathes might be referred to, as well as polishing and grinding heads. An amateur bench lathe, No. 66742, is quite one of the best of its kind. This number is selected as representing excellent value, the price being within moderate means. It is well equipped, and allows a good variety of work to be done. Precision tools are a feature of this range, a most complete list of Starrett's lines being regularly carried.

Such tools as wrenches, spanners, and pliers are largely represented. In pliers alone the choice is endless. It is scarcely realised by many retailers that a card of handy assorted pliers may be shown on a counter. They will appeal to everyone. There is a special type for almost every purpose, and the average man would be likely to buy one "on sight."

A number of tools for special trades are handled, such as ironmoulders', tinsmiths', leather workers and many others. Engineers' leather tool bags are to be had from stock. These are made from strong harness leather, and would suit the mechanic who finds it necessary to carry a set of tools.

Among a fine array of vices, the "Walkess" is now prominent. It is Australian-made, extremely strong, and enables work to be done on unusual lengths of metal.

Hawkes Bros. Pty. Ltd., of Geelong and Melbourne, carry the well-known range of Starrett's engineers' tools and precision instruments. These include squares and gauges, rules, calipers, dividers, speed indicators, and a host of other appliances.

Leading makes are kept of hand and breast drills, supplies coming to hand constantly, together with Morse twist drills, in all patterns. Every class of vice is here, whether for engineers or woodworkers, in all sizes. Mention should be made of the "Walkess" offset vice, a new design which will prove useful and is expected to sell well. It serves every purpose of the ordinary type, and owing to the offset of the jaw enables materials of considerable length to be securely held.

An important side of the tool department is that devoted to carpenters' and woodworkers' appliances. Amongst the saws no make meets with more appreciation than Disston's. A fresh shipment of this brand brings the range up to date, every number in request being available. Several good ratchet braces are featured in both English and American patterns; different grades are supplied for the varied needs of users. Wood bits are available either loose or in sets.

Mathieson's and Stanley's planes are always called for. Complete stocks are therefore provided, while tools such as levels, hammers, chisels and drills are held in an extensive selection.

For the plasterer or bricklayer all requisites have recently arrived. Trowels, all kinds, plasterers' rules, and small finishing tools are included in this section. Special attention is drawn to a big choice of stocks and dies offered. There are Australian, British, and American makes, and whether for plumbers' or engineers' use satisfaction can be given to buyers.

"Rex" link belting is a line in constant demand.

J. S. Kidd & Co. Ltd., of 410-12 Lonsdale-street, Melbourne, have landed a large shipment of American tools from the Stanley Works. In addition to

the well-known patterns of iron planes for which this factory is noted, an assortment of spokeshaves, T bevel squares, and mitres is included in this consignment. Disston's mortise gauges and mitre boxes are also in stock.

Spear & Jackson's handsaws continue to advance in popularity. All patterns are continually coming to hand, and can be confidently recommended. For those who use American saws a full selection of Disston makes is available. The English tools for woodworkers include Mathieson's planes, Joseph Tyzack's and Ward & Payne's chisels, screwdrivers, gimlets, and similar wood-handled lines.

Amongst engineers' appliances napping and spalling hammers, together with ball pein patterns, come from the Brades Ltd., and are considered most reliable tools. Hand and breast drills, in "Yankee" numbers as well as in the various Millers Falls designs, form part of a recent shipment. The familiar "Footprint" spanner is prominent, and a complete range may be found here. A feature of this department is the wide choice of wrenches and spanners of all kinds; there is practically a spanner for every use.

For many years the firm have carried all lines of Nicholson files, and it is found that this brand gives complete satisfaction. The quality is uniformly reliable, and all cuts and shapes are constantly in stock.

McPherson's Pty. Ltd., of Collins-street, Melbourne, stock every kind of woodworking and engineering tools, as well as those for farm or home. These embrace a range of carpenters' tools, selected from leading English and American makers. There are in addition special appliances for various other trades, such as plastering, bricklaying and building.

Amongst the many types of spirit levels a new idea will be welcomed by both tradesmen and amateurs. This is the "Eden" plumb and level, a small instrument which is extremely useful for masons or bricklayers. Small enough for the pocket, it may be fixed on a board to ensure accuracy in any job. It should be specially handy in repair work. It sells at a moderate price.

The engineering section is one of the most complete to be found in Australia, and represents the leading part of a large organisation. The firm are well known as manufacturers of lathes and shop equipment, as well as bolts and nuts of all kinds. The hardware store will be interested in handy tools such as wrenches, pliers, and spanners, and a most extensive selection is always available. The list of wrenches includes sizes from 4 in. to 4 ft., and for every possible purpose on the farm, or in the factory, garage, or household.

Special garage sets are supplied, covering the needs of a workshop where a hundred different jobs are met with. A double-ended spanner, of the "Macson" brand is worth inspection. This is a high-quality line, the finish and material being of the best. It is made for use with Whitworth, S.A.E., and metric openings. A spanner for every job which can be named may be obtained here, and many retailers could profitably "specialise" in these appliances. In country centres, where every settler uses implements requiring a spanner or wrench, and car owners are numerous, many customers must be buyers of these lines.

Small tools, such as vices, hand and breast drills, as well as braces, are in constant demand, and these are all to be had in a comprehensive range. In the plumbing section will be found "Phoenix" self-heating soldering irons, as well as the ordinary type, furnaces, and other tools. The "Upright" red furnace is a portable British line, which burns kerosene, and gives intense heat. For melting metal, heating irons and similar jobs, it is most useful. It is efficient out-

side in any weather. An ingenious arrangement permits the top stand to be removed, and with a swing lever the flame may be set to any angle for brazing.

Thos. Mitchell & Co. Pty. Ltd., of 360 Lonsdale-street, Melbourne, have on hand all the regular carpenters' tools, including wood jack and smoothing planes in all sizes at competitive prices. Of Stanley planes, in the American pattern, a complete range is always maintained. Disston's handsaws, as well as tenon and panel saws, are amongst recent shipments. Both crosscut and one-man patterns are also stocked. A shipment of spirit levels includes all requirements.

The demand in chisels and screwdrivers is principally for the leading English makes, and these are available, the former in the firmer pattern, and the latter in a very complete list of sizes. Some handy cards have been received, suitable for counter display, having a dozen assorted screwdrivers of the most-called-for types. Stores are finding this method of handling every-day tools effective, saving the time of the salesman, and securing many sales which might otherwise be missed. Another good carded line consists of a selection of shoemakers' tools, with every implement which the amateur repairer requires. Both the above are in the "Veiled Woman" brand, and represent excellent value.

Good demand is reported for a compact little tool pad. This contains some eight or ten gimlets, bradawls, and similar handy appliances within the handle, to be fitted in an instant as needed. Other tools carried include auger bits, gimlets, bradawls, and similar handy appliances within the handle, to be fitted in an instant as needed. Other tools carried include auger bits, gimlets, bradawls, braces of every description, hacksaw frames and blades, and a good selection of vices for all purposes. The firm cater specially for the needs of country buyers with respect to agricultural tools of all kinds. Prominent in this section are spanners and wrenches, which find a good demand in country districts. Leading items which may be mentioned as daily needs are "Footprint" spanners, and the popular "King Dick" patterns.

George Russell Pty. Ltd., of 452-60 Flinders-street, Melbourne, carry full ranges of Stanley's tools, covering a very large field in the supply of carpenters' and woodworkers' appliances. Many of these are quite familiar to tradesmen, and represent standard equipment in planes, levels, gauges, and similar tools. Mathieson's planes and other lines are also kept.

Amongst the best selling lines are braces and drills, which are now obtainable in many makes. Ratchet braces may be had bearing Miller Falls, "Pexto," Stanley, and many other names, while saws are in the tested brands of Spear & Jackson Ltd. and Henry Disston & Sons Inc.

Spanners and wrenches represent another important side of this department. "Footprint" brand are always in favour, and are here in all sizes, while the most wanted patterns of Stillson and Westcott are also in stock.

For bricklayers and plasterers a selection is carried of Brades' and Disston's trowels, whether ordinary patterns or those for tuckpointing, plastering, or other branches of the trade. In addition to these tools, a good list of rules, tapes and metallic tapes has recently arrived. These comprise leading numbers from Rabone and Chesterman as well as American makers.

Grinding and sharpening stones, whetstones and carborundum products should be mentioned, and the popular Nicholson's files in all sizes.

Electrical Notes from New Zealand

(Specially Contributed.)

The following loans have been sanctioned by the ratepayers of the Golden Bay Power Board's area:—(a) for hydro-electric power scheme, £21,500; (b) for financing consumers, £3500.

The first extension of Poverty Power Board's electric supply to the East Coast district is marked by the sanction of the finance committee for the erection of a line from Waimata to Whangara.

Poverty Bay Power Board has decided, in order to convince the borough council of the necessity for a more extensive street-lighting system, to specially reticulate one of the town blocks at its own expense, using stronger lights placed at more frequent intervals.

The raising of £10,000 as the first instalment of Franklin Power Board's loan for reticulation in the Raglan County portion of the board's area has been authorised, and the board has signed contracts for the supply and delivery of poles from Australia for lines in that district.

Central Power Board's (Hamilton) annual report, presented at the May meeting of the board, shows that the revenue from sales of power increased during the year from £35,519 to £38,691. The year's accounts showed a credit balance of £3021 and, after depreciation had been allowed for, the nett profit was £365.

Westland Power Board reports that on April 17 Westland Power Ltd. completed an auxiliary plant at Duffer's Creek, on the Kumara water race, the power being utilised at Malfroy & Co.'s sawmill at Three Mile. Within three months 1500 h.p. will be available. Several big consumers have signed up for the supply of power for mining purposes, and three more sawmills will very shortly be connected.

During the last financial year Palmerston North Borough Council made reductions in charges representing a benefit of £3200 to consumers; the lighting rate was reduced from 7d. to 6d. a unit nett, heating from 2d. to 1½d., and water-heating from 1s. to 16/-.

There are now 4207 consumers supplied by the council, and the undertaking is considered one of the best assets the borough possesses.

Applications having been received by the Wanganui-Rangitikei Power Board for concession on lighting rates for all-night service, the board has decided that between the hours of 11 p.m. and 7 a.m. heating rates be charged for such services as are controlled by time switch, separately metred, and with a minimum of 5/- per month.

The board reports an increase of 70 consumers during March, the total reaching 7291. Revenue for the month, £6722, showed an increase of about £616 over that of March, 1927.

The preliminary report submitted to the Waitaki Power Board by the engineer-manager (Mr. I. Dalmer) at the April meeting showed highly satisfactory results for the previous year's operations. The revenue derived from the sale of current rose from £16,173 to £24,700, rather over 50 per cent. After allowing for interest and capital charges, and set-

ting aside £5300 for depreciation and renewal fund, it was estimated that there would remain a nett profit of over £4000. This would enable the board to reduce its charges, entailing a present surrender of from £1200 to £1300.

Waitemata Power Board's annual report, presented at the May meeting of the board, shows very satisfactory results for the year's operations, the total credit balance of the revenue account standing at £8849.

During the period there were 5512 consumers connected up, including 408 stores, 596 water heaters and 241 motors. The revenue from consumers totalled £45,100, an average of £8/3/7 per consumer. The total of loans authorised, including the liabilities of the Devonport electricity loans, was £361,000, of which £325,700 had been raised and £297,221 spent.

Notification to the Thames Valley Power Board by the Public Works Department that it was proposed to terminate the agreement for supply of power through the board to dairy factories having their own generating plants, caused much concern to the board. Such a decision would have made it impossible for that body to meet interest and sinking fund charges amounting to £60,000 a year.

As a result, however, of a conference between representatives of the board and the department, a satisfactory arrangement has been arrived at, details of which will be put before the June meeting of the board.

The rejection of Ashburton Power Board's proposal to borrow £90,000, mainly for reticulation and the installation of electrical equipment for consumers, has put the board in a very difficult position. Its distribution system, designed for 600 kilowatts, is carrying 1400 kilowatts, and any further overload is out of the question. With the loan money, it was intended to build heavier main feeder lines, instal transformers, and place the whole system in a condition to handle loads of over 3000 kilowatts that are expected in the near future.

Seeing the defeat was sustained by the narrow margin of 65 town (not country) votes, it is considered probable that another poll on the loan proposal will be taken next year.

Otago Central Power Board reports that constructional work completed during the year ended March 31 has been the raising of the Roxburgh main line to 33,000 volts and 60 kilowatts capacity, raising the Cromwell main line to 11,000 volts and 200 kilowatts capacity, and the reticulation of the Lowburn and Bannockburn districts. This completes the original construction programme of the board.

The installed load on the system is 934 kilowatts, as follows:—Lighting, 160 kw.; heating, 298 kw.; ranges (63), 352 kw. total; water heaters, 52 kw.; motors, 72 kw. There are now 655 consumers connected up, and over 300 goods accounts.

The total connections to date are:—Lighting, 2773; heating, 993; milking motors, 749; separator motors, 13; other motors, 149; water pumps, 232; water heaters, 687; electric ranges, 141. The total number of consumers is 3042.

Extension of the Waipori hydro-electric works to supply the increased demand for power for Dunedin is proceeding steadily. The new dam, which is being constructed at a site below the old one, will be 110 ft. high when completed. When the structure is 75 ft. high, it is expected to have water behind it and to use it for increased supply during the summer of 1930.

Wellington City Council's electricity department has enjoyed an exceptionally prosperous financial year, due to the supplying back of power to the Government to make good the dry weather shortage of power from the Mangahao hydro-electric station. Under the terms of the agreement, the council is credited with two units for each unit so supplied.

The longest run of the city stations was from January 3 to April 7, when heavy rain filled the third dam, which was not completed in time to be filled by the late summer rains. The striking increase in the demand for electricity in Wellington is shown by the fact that, for the year ended March 31, 1920, 19,000,000 units were generated, while for the first quarter of 1928 16,000,000 units were generated. Accounts for the past year show a nett surplus of £50,960 against £23,941 for the previous year.

The mayor has indicated that a new scale of charges for lighting and heating is now being prepared, with reductions in several respects. He also predicts a further general reduction in charges when the voltage change-over is complete, giving Wellington probably the cheapest power in the Dominion.

After thorough survey and test operations extending over the past two and a half years, the Government has definitely chosen a site on the Waitaki River, Canterbury, for the Waitaki hydro-electric development, which will supply South Canterbury and North Otago. The scheme will take about three years to bring into operation, the initial stage comprising the installation of two generating units each having a capacity of 15,000 kilowatts. The ultimate development, which will be capable of supplying 75,000 kilowatts, is estimated to cost £1,200,000.

The new station will supply not only South Canterbury and North Otago, but will link in with the Lake Coleridge electric supply system at a point to be determined by their mutual loads, and will eventually connect with the supply from Dunedin. The power demand in the various districts to be served has now become so great that an early start on the Waitaki scheme has been rendered necessary.

Mr. R. H. Packwood, of the Public Works Department, who has been in charge of construction in the Auckland-Westfield railway deviation, has been appointed district engineer in charge of the Waitaki development.

The proposal to provide a hydro-electric development for Nelson city and surrounding areas has been advanced to a further stage by a preliminary report supplied by Vickerman & Lancaster, who were asked to investigate the most promising sources of supply.

The consulting engineers consider that the Wairoa and Motueka Rivers are the most favourable sources of power. With the Wairoa development, the most feasible method would be by means of a series of three dams situated at intervals along the river, and each with a separate power station. The maximum power obtainable on a 50 per cent. load factor, and allowing for the height necessary to ensure storage for daily regulation of flow, would be approximately 900, 400, and 600 horse-power respectively from the three dams.

The Motueka development would be located just above the Baton junction, where 51 ft. of fall could be obtained without any dam. The capital cost per h.p. generated would be very much lower for the Motueka than for the Wairoa scheme, but the former would call for much longer transmission lines, thus putting up the overall cost.

Including transmission, the relative capital costs per h.p. delivered at the main sub-station would be:

	Motueka.	Wairoa.
Generation	£43.0	£107.0
Transmission	£15.6	£7.5
	<u>£58.6</u>	<u>£114.5</u>

The full output of power would be available continuously from Motueka, whereas it could only be delivered for twelve hours daily from Wairoa.

The investigation and recommendation committee has recommended the adoption of the Motueka River scheme, and has taken the necessary steps to form a Power Board, which will take over the assets of the Waimea Electric Supply Co.

Manufacturing Section

Larger Premises.

Mr. A. F. Robinson, manufacturer of "Champion" grass catchers, has removed from 64 Henry-street, Five Dock, to larger premises at 18 Rosedale-street, Dulwich Hill, Sydney.

Petrol-Driven Excavator.

An exhibition of a new petrol-driven excavator, manufactured by Frank Saunders Ltd. for the construction of the Nepean dam, was given at the works of the company at Rosebery, Sydney, on May 31. The machine has been designed and built in Australia. It is mounted on caterpillar tracks, and is convertible to either a power shovel or a mobile crane. As a shovel it is capable of removing more than fifty tons of earth in an hour, and is capable of climbing grades of one in three. The weight of the machine is approximately 14 tons.

New Handle Factory.

At Glenorchy, Tasmania, the Mt. Field Timber Co. Ltd. have commenced to turn out handles of various kinds from a local timber called "leatherwood." This is said to approach hickory in spring and toughness, and is consequently well adapted for such a purpose. Axe, pick, hammer and other handles are being produced by the firm, who have installed special machinery to shape and finish the handles. Blue gum is also used to an extent, especially for pick handles, for, although heavier than "leatherwood," it is highly esteemed by many users. Mr. A. E. Holmes is the manager of the factory.

Foundry Closing Down.

We are informed that Ball's foundry, one of the oldest industrial concerns in Goulburn, is about to cease operations owing to an amalgamation of interests between the proprietors and the Hibbert Pneumatic Cell Tyre Co. Ltd., of the same town. The foundry was established some fifty years ago by Mr. R. T. Ball, for many years a member of the Legislative Assembly of New South Wales, and at the present time a member of the Cabinet (Secretary for Lands and Minister for Forests), and for a long time all the farming implements and machinery required in the district were manufactured at this foundry. At one time between 40 and 50 men were employed, but in recent years the output has dwindled. The change of policy adopted by the Railway Department, when it ceased to give contracts to outside firms, dealt the works a serious blow. A great deal of material for water supply schemes at Goulburn, Dubbo, Nyngan, Parkes and Moss Vale was produced at the foundry, and the ironwork used in the building of the Goulburn gaol was also obtained there. The machinery will shortly be removed to the tyre works.

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JULY 6, 1928

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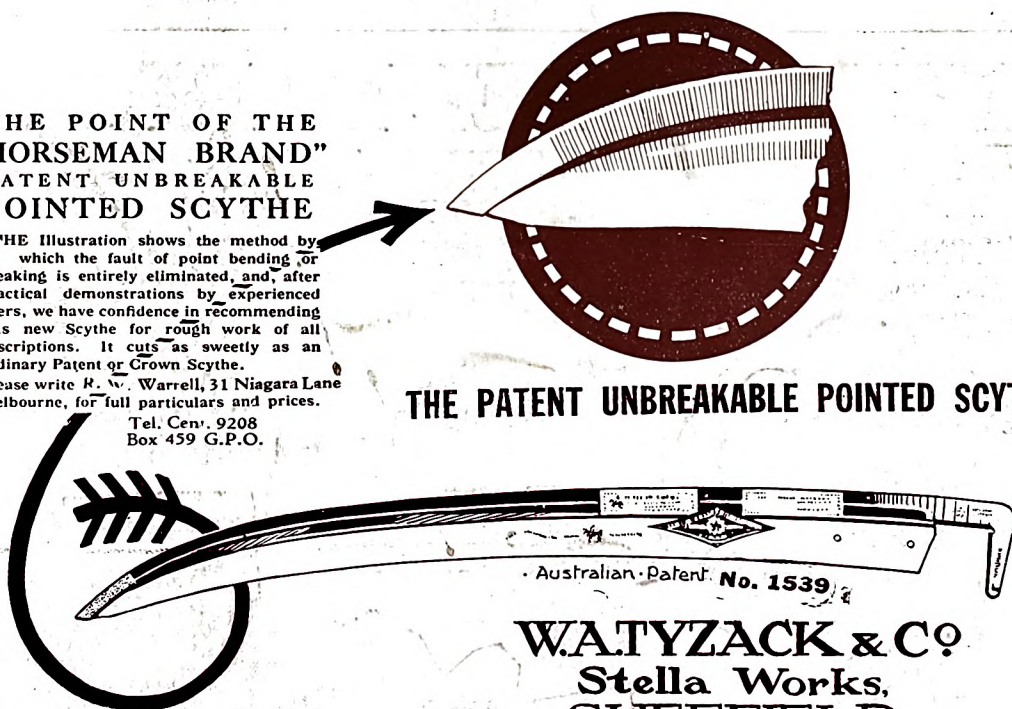
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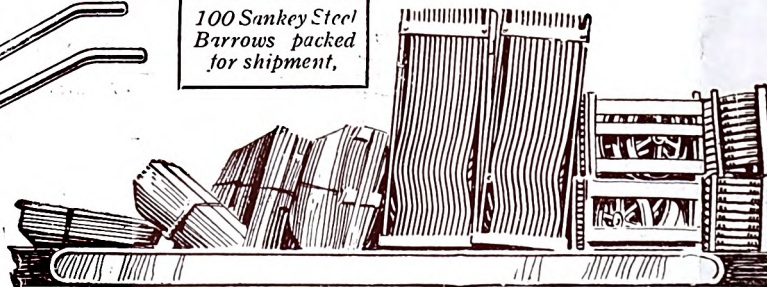
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Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

New Box-Making Machine

(By a London Correspondent, 52/229.)

It is a sign of the renewed prosperity of the box-making industry in London and other parts of England that one of the largest engineering firms in the world should have devoted thought to the production of a new machine for the use of the box manufacturer. At time of writing, this machine is being tested at one of the important box manufacturing factories and, until its merits have been thoroughly proved, it will not be ready for general use.

But a recent inspection in the home of its makers and inventors, Vickers-Armstrongs Ltd., at Erith, in Kent, gave ample evidence that there is a new and better way of doing a box-making job. It applies more particularly to the making of folding boxes, and can score and cut a large number of cartons in a very short time, the whole operations being done automatically except that the original sheet of board must be fed into the machine by hand. This feeding, by the way, needs practically no skill, all that is required being ability to put the board close up to the twin wheels that take the first grip of it.

When working the machine showed itself astonishingly speedy and efficient. A development partly of the ordinary printing platen press, it takes little more room, but it has the advantage of being built very much more strongly than the average machine of this class. For instance, I discovered that the main gear wheels were of solid steel, and in many other details the machine was made most sturdily and, at the same time, with an eye to attractive lines.

When the sheet of board is fed into the machine it is taken by two steel roller wheels working with an underneath steel roller. These, together, force the sheet down on to the steel bed of the platen, where it is adjusted into position by the operation of two regulators working automatically. The platen is then brought into contact with the board which, as a result, becomes scored and cut as required. Then the bed and the platen separate, leaving the board pressed against the latter. From above the platen knife-like blades come down and strip the cardboard from the platen. Thus released, it falls downwards and is carried right under the machine to the back, where it is collected in the tray waiting to receive it.

The machine is capable of handling in this way forty-two boards per minute, or rather more than double the speed of the existing hand-fed machine doing the same work. It readily accommodates any thickness of carton board, and there is practically no danger to the operator, who stands away from the working parts.

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Hardware Merger in Melbourne

A merger of interest to the hardware trade has been arranged between George Russell Pty. Ltd., and S. Cohen, Sons & Co. Pty. Ltd., both of Melbourne.

As far as the conducting of both businesses and the relations with their customers are concerned, no change is being made. Mr. George Russell (managing director) and Mr. Maurice Cohen (director), will continue to be actively associated with the two businesses, while the various heads of departments will retain their present positions. The same applies to the indoor and outdoor selling staffs.

Economies are being made as a result of the merger that will reduce overhead costs, thus making it possible to supply hardware, iron and steel and allied lines on the most competitive and favourable basis.

Foreign Exchanges

Foreign rates of exchange in London for cable transfer on the centres and dates indicated, compare as follows:—

Par.	—	—	June 21	June 25	June 28	July 2
4.886	New York	Dols to £	4.874	4.871	4.874	4.874
4.886	Montreal	Dols to £	4.89	4.86	4.884	4.884
25.225	Paris	Frcs to £	124.18	124.13	124.05	124.18
35.000	Brussels	Bels to £	34.93	35.00	34.92	34.93
25.225	Rome	Lire to £	92.88	92.74	92.71	92.77
12.107	Amsterdam	Florin to £	12.09	12.10	12.10	12.09
12.107	Batavia	Gul to £	12.12	12.12	12.12	12.12
18.159	Stockholm	Kron to £	18.19	18.23	18.18	18.18
18.159	Oslo	Kron to £	18.23	18.19	18.22	18.22
18.159	Copenhagen	Kron to £	18.21	18.21	18.21	18.20
20.43	Berlin	Gmks to £	20.41	20.41	20.40	20.40
24	Calcutta	Pen to rup	17	17	17	17
24.58	Yokohama	Pen to yen	22	22	22	22
*	Hongkong	Pen to dol	24	24	24	24

* Par depends on rise and fall in price of Silver.

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Editorial

The Personal Factor in Business

An address on this subject was recently given to commercial students of the University of Melbourne by Mr. E. Lee Neil, who is well known as managing director of Myer's Emporium, one of the biggest departmental stores in Australia. With most men, said the lecturer, there was a regrettable lack of incentive. One of his departmental managers had told him that out of a staff of seventy only one was consciously training himself for higher duties. This he regarded as an indirect result of State interference between employers and employed. Largely that, at any rate. Arbitration courts and wages boards laid it down that men were to be paid on an age qualification rather than on a business qualification. Such a system might have its advantages, but it had many disadvantages. His firm encouraged their staff to educate themselves, and they would sooner pay a man twice the award rate if he were worth it than the bare minimum. It was very hard to find men capable of undertaking high executive responsibilities. Replying to questions put by Professor Copland, Mr. Neil said his firm preferred to secure young untrained boys rather than older and better-educated youths. Because of the wages board system which obtained in Victoria they had been reluctant to engage University graduates, but although more costly at the beginning he believed that would be the wiser course. Other countries were finding it so.

Many other business men, we believe, would say very much the same thing. Whatever the reason, the difficulty of securing reliable and efficient service in shop and warehouse is not less, but more. Comparatively few show initiative or enterprise, or can be trusted with managerial responsibilities. Industrious and painstaking they may be, and effective up to a point. But beyond that you look to them in vain. They can be trusted only along well-beaten tracks with the routine and conventional. Faced with something new—something that calls for thought and resource, they either do the wrong thing or do nothing at all on their own authority. They appeal to somebody else. Mr. Neil controls a big organisation occupied mainly with the selling of goods. On the manufacturing side Henry Ford, with a much larger pay roll, has very much the same experience. Only the few, he says, have any aptitude or even any desire for control or leadership. They are only fitted for the tasks which others

set them to do and in many cases are quite satisfied with the doing of these from day to day.

It is on this rock fact of experience that socialistic theories split. Nature knows nothing of equality nor does human nature. No two men are alike. Some have larger gifts or greater application than others. These are the men who blaze trails and explore ideas and assume the directive position in practical affairs for which nature and training have fitted them. To limit the material rewards of such men to what it deemed sufficient for the hewers of wood and drawers of water would not only be unjust to these men themselves, but unjust to the body politic. It would reduce employment and put a spoke in the wheel of progress. Under such a regime society would not be the better but the worse. Enterprise would be discouraged to the disadvantage of the many who now benefit by the operations of the few.

Quite apart from the question of natural endowment a measure of success is within the reach of any man. All history goes to show the possibilities open to him who applies himself to his duties, whatever these may be. A study of biography will satisfy most people that "the heights by great men gained and kept were not attained by sudden flight." They were reached by patient, unremitting toil. A retired ship's captain, who had himself made certain improvements in the mariner's compass, was witness in a law case touching the infringement of the Lord Kelvin patents covering that instrument. "Here is where I come in," said the captain to himself; "what do these lawyers know of such things?" But in court he had the surprise of his life. Sir Richard Webster, who appeared for the patentees, showed that he knew more about the history and principles of the compass than the man who had used it on the high seas for many years. Afterwards Lord Chief Justice of England (Lord Alverstone), Webster's autobiography is also on the book shelves, and an incident there related casts light on the compass matter. While still at the bar he was counsel in a case having to do with refrigerating machinery on board a steamer, and he tells how he spent the whole of one Sunday in the bowels of that vessel with the chief engineer, so that he might know all about it. Not without significance is the story of Holy Writ that it was the man with the one talent—not the man with the five or the three—who failed to use what had been entrusted to him.

Safeguarding British Industries

On June 8, according to cabled reports, the House of Commons by 225 votes to 84 decided to impose a 25 per cent. Customs duty on kitchen enamelled wear imported from abroad, such duty to operate for a term of five years. The president of the Board of Trade (Sir Philip Cunliffe Lister) explained that a duty imposed on such goods by the Lloyd George Government in 1922 had been removed two years later by the Ramsay MacDonald (Labour) Govern-

ment. Since then the imports of such goods had so increased that six out of eighteen British manufacturers had closed their works. After hearing fresh evidence the Safeguarding Committee, which in 1926 refused to move in the matter, felt justified in recommending the reimposition of a duty.

Accounts previously published in the British trade press went to show that the industry was in a bad way. The matter was pressed upon the Government by the Enamelled Hollowware Section of the Wrought Hollowware Trade Employers' Association, who asked for a duty of 33 $\frac{1}{3}$ per cent. Evidence was given of the closing of certain factories and the applicants maintained that it was not a matter of plant and equipment, but of the longer hours and much lower wages obtaining in Continental factories. While the average cost of profitable production in Great Britain was £81 per ton, the average cost of imported enamelled ware was only £55. It is noteworthy that the manufacturers themselves suggested the five years' limit either because they expect the situation to change in their favour or more probably as a matter of tactics. A temporary measure of relief had a better chance of passing the House than a permanent impost. Noteworthy, too, is the title of the enactment. It is a "safeguarding" measure, not an instalment of that thing still so repugnant to British feeling—"protection." Euphemism is employed by way of disguise, or so it will appear to some people.

Civic Corruption

Appointed a Royal Commission to probe certain charges arising out of a contract for machinery placed by the Sydney City Council with Babcock Wilcox Ltd., Mr. Justice Harvey finds that the charges were well grounded. Bribery and corruption have been proved to his satisfaction. The contract dated back to 1925 and totalled £603,447. There were other tenderers, including International Combustion Ltd., and when Mr. Arthur James Arnot, the attorney and general manager in Australia of Babcock & Wilcox Ltd., heard that Mr. Hutchinson, representing this other company, was prepared to find £15,000 by way of "sweetener" if the work came to them, he discussed the subject with Mr. Silas Y. Maling, then the deputy manager of the City Council's electricity department. At Maling's suggestion Arnot undertook to secure £10,000 (subsequently increased to £10,600) for division between Maling and certain members of the City Council if his company's tender was accepted. Their tender was accepted and the sum of £10,600 was duly paid, although the evidence did not show into whose pockets it all found its way. No evidence of the second company sending the £15,000 was offered, and the judge says they probably knew nothing of their manager's action in the matter. His Honour expresses pleasure at one thing. In his opinion no harm was done to the citizens "by the corrupt bargain made between Mr. Arnot and Mr.

Maling. I have no doubt [the firm's] price was fixed before any question of payment of graft money was contemplated. As far as I can judge it is probable that the same course would have been adopted and Babcock & Wilcox's tender would have been accepted if no bargaining or promise of money had taken place on the part of the tenderers." They could and would have had the contract without the £10,600. Which goes to show just how badly they have been served at the Sydney end.

An unsavoury tale, truly—a tale which brings the blush of shame to the cheek of every decent citizen. And what is worse, it is not the only one of the series. Rumours of "graft" in the civic life of Sydney have been current for many years. The thing has become so flagrant that the present State Government took the drastic step of dismissing the City Council neck and crop. An Act of Parliament was put through placing the management of municipal affairs in the hands of an independent commission for a term of years. The finding in the present case justifies that extreme action, an action so humiliating to a great city—the oldest and largest in Australia. It is to be hoped that some of those who have already appeared in the witness box with their unbelievable stories of how large sums of money came into their possession will stand before long in the dock on a criminal charge. If they have any civic conscience at all the people of Sydney will not rest content until they have purged themselves of this offence. Those who have brought dishonour upon the name and fame of a fair city should be made to suffer for it, if they can be laid by the heels, at whatever cost. For the evidence all goes to show that the municipal representatives and officials have been the tempters and not the tempted, although some of them would like it to appear otherwise. Admitting that the suggestion of "greasing the palm" came from the civic authorities, no excuse can be offered for those who yielded to it. That firms of world-wide reputation should even discuss such shady dealings is to us a matter of astonishment.

Flaxseed Production in the Argentine.

Argentina ranks first among the world's flaxseed producing countries, and now produces about fifty per cent. of the world crop, exclusive of Russia. It also ranks first among the exporting countries with India, the nearest competitor. The flaxseed of Argentina has in general a higher oil content and lower moisture content than the seed of the United States and Canada, but is said to contain oil of a slightly inferior quality to that found in the domestic crop, according to Department Bulletin 1471 of the United States Department of Agriculture. Flax production has been increasing rapidly in recent years in Argentina, the 1927-28 crop of 81,216,000 bushels being nearly double the 1922-23 crop. The crop is seeded from May to August and harvested from November to December. Exports are usually heaviest in the early part of the following year. In the past six years eighty per cent. of the Argentine exports had gone out between January and the first of September, when the new United States crop begins to come on the market.

Inquiry Column

During the month we have supplied answers to the inquiries indicated below. Firms with whom we have not already communicated who hold any agency connection with the firms, or handle any of the lines mentioned in this section, are invited to furnish us with particulars so that our lists may be complete.

INFORMATION SUPPLIED

Ward & Payne Ltd.—Name and address of agent supplied.

Nicholson's Files.—Name and address of agent supplied.

"Rid" Aluminium Cleaner.—Name and address of agents supplied.

"Wesfalia" Separators.—Name and address of agents supplied.

"Silver King" Golf Balls.—Name and address of agents supplied.

Palnut Co. Ltd., London.—Name and address of agent supplied.

"Success" Green Food Cutter.—Name and address of agents supplied.

Goodwin & Co., Birmingham.—Name and address of agent supplied.

"Hilo" Crystallising Lacquer.—Name and address of agents supplied.

"Little Wonder" Bath Heater.—Name and address of makers supplied.

"Little Hero" Bath Heater.—Name and address of manufacturers supplied.

"P. & W." Split Links.—Name and address of manufacturers supplied.

Household Bellows.—Names and addresses of Victorian makers supplied.

Wm. Barbour & Sons Ltd. (twine).—Name and address of agents supplied.

Glass Washboard ("Possum" brand).—Name and address of maker supplied.

"Grip-O" Dressing for machine belting. — Name and address of importer supplied.

Reed Mfg. Co., U.S.A. (Barnes' pipe cutters).—Name and address of agent supplied.

Aluminium Sinks.—Names and addresses of manufacturers and agents supplied.

Burton & Ball Ltd., La Plata Works, Sheffield.—Name and address of agents supplied.

"Utility" National Mill for grinding bones, etc.—Name and address of agents supplied.

Stover Mfg. & Engine Co., Freeport, Conn., U.S.A.—Name and address of agent supplied.

Galvanised Iron, "Queen's Head" brand. — Name and address of makers and agents supplied.

Josiah Parkes & Sons Ltd., Union Lock Works, Willenhall.—Name and address of agent supplied.

British Vacuum Cleaner & Engineering Co. Ltd., London.—Name and address of Victorian agents supplied.

Duties of Customs.

New South Wales subscribers (68/229) wish to know what duty is imposed upon milk cans and other such goods imported into the Commonwealth from Sweden.

A. Ordinary milk cans are classified as manufactures of metal and, when brought from Sweden or other extra-British countries, are subject to a duty of 45 per cent. ad valorem.

INFORMATION WANTED

Clothes Pressers. — Name and address of agent wanted.

"Daisy" Clover Cutter.—Name and address of agent wanted.

Perforated Razor Hones.—Name and address of agent wanted.

Coward & Co. Ltd., London.—Name and address of agent wanted.

Citrus Snips.—Name and address of agent or firm with stocks wanted.

Howard's Plough Shares.—Name and address of Australian agent wanted.

"Wesfalia" Hand Power Separators.—Name and address of agent wanted.

Aug. Stenman (Sweden).—Name and address of agent in Melbourne wanted.

William Jacks & Co., Birmingham and elsewhere (metals).—Name and address of agent wanted.

Edward Pennington Ltd., London (metal merchants).—Name and address of agents wanted.

Henry Russell & Co. Ltd., Sheffield (high-speed steels, etc.).—Name and address of agents wanted.

John Holroyd & Co. Ltd., Rochdale, England (machine tools).—Name and address of Melbourne agent wanted.

Pottery and Glassware

England and Scotland.

As sole Australian agents of the Henry Richards Tile Co. Ltd., Tunstall, England, E. A. Dawborn & Co., of 38 Clarence-street, Sydney, are showing glazed and unglazed tiles in more than one hundred different colours, while other hundreds of varying shades are also available. The finishes vary from the old plain enamel to every description of soft colours in vellum or mottle finish, including some beautiful examples of velvet patterns. In addition there are patterns made up of small hand-cut pieces, the process lending itself to greater elasticity of design, and some beautiful effects are produced.

On behalf of the Southhook Potteries Ltd., Kilmarnock, Scotland, are shown samples of enamelled sanitary fireclay ware. The factory sends its products to all parts of the world, every country having its own fashions in baths and other articles in daily use. Among the new sanitary improvements is a combined slop hopper and sink, the hopper compartment being fitted with a flushing ring, and on the front with a wood pad.

England and the Continent.

Budden, Cruttenden & Neale Ltd., 189 Clarence-street, Sydney, are displaying on behalf of John Steventon & Sons Ltd., Burslem, England, a general new range of semi-porcelain dinner and tea services, also toilet-ware and fancies. Among the former a new shape, octagonal in form, and known as the "Eldon," is introduced, bearing embossed floral effects in panels formed in gold line. Some half a dozen or more other new designs with similar-shaped services are shown with litho. and enamel decorations, where bright orange colours predominate in alternating groups of fruit and foliage of bright hues. The decorations in "Ascot" and "Bell" services are also notable for the tendency to brighter colour decorations than formerly shown. Indeed, a greater measure of life in the colour combination permeates the whole range from these manufacturers.

From Maerky & Jahl Ltd., Czechoslovakia, is an extensive display of domestic glassware covering almost every conceivable requirement and featuring particularly popular English shapes and designs. Table services, vases, bowls and other decoration lines, toilet sets and novelty fancy articles are included in the long list here represented.

Sundry Credits

By J. Knibb.

All over the British Empire relief will be felt at the news that the subsidence of St. Paul's Cathedral in London has been arrested. Experts affirm that Wren's great structure is now safe, no further movement having taken place for the past two years. The main job of reinforcing the rubble-filled piers by forcing into them liquid cement is all but finished. Remains another big operation, that of winding a chain four times round the dome to prevent spreading. Each link of this chain will be fifteen feet in length. Long links, assuredly, and of the best material, I have no doubt.

I wish the Engineering Standards Association would standardise the size of cheques. At present each bank and each firm is a law unto itself not only in regard to style and appearance, but to area or ground covered. Within recent weeks I have handled cheques as small as 5½ in. x 2½ in. and as large as 10 in. x 6½ in. Now a cheque ten inches long is an offence and an inconvenience. It is at once wasteful and troublesome. There's no need for it, no sense in it. Needless to say, no bank provides cheques of such proportions. They are private efforts, and to me at least symbols of pride and vain glory.

The earliest writing known to the world was on papyrus by means of reeds. When wax-covered tablets were introduced the writing was performed by a pointed stylus of bronze or bone or other hard material. In China and Japan the people write, or used to write, by the agency of small brushes or hair pencils. Metal pens were used to a limited extent by the ancient Romans, and some of these bronze pens have been preserved. One found in the ruins of Pompeii is now in the museum at Naples. Among our own ancestors during more recent centuries the use of the quill was universal.

In England the first man to use a steel pen was Dr. Joseph Priestley. He got one Harrison, a splitting maker, of Birmingham, to make him some as early as 1780. They were of sheet steel, formed into a tube, and filed to shape, the joint of the metal making the slit. Stiff articles they proved, costing even then a lot of money. Immortalised as the discoverer of oxygen, Dr. Priestley (1733-1804) was a man of energetic and versatile mind. It was when, approaching middle life, he came to live near a brewery that he took up the study of chemistry. A preacher he was, of a very radical and unorthodox type, and an incessant writer on many subjects.

According to cabled reports, the reconstruction of the Bank of England in London must be well advanced. We are told, at any rate, that the gold in specie and bullion has been transferred from the old vaults to the new. It took many days and many drays, for the value ran to £162,000,000, which represents about 1150 tons avoirdupois. Twelve months ago it was reported that the new bank was being provided with elaborate defences. "In the event of invasion or other

emergency it will be possible to flood the vaults from three points—one within the bank itself, one elsewhere in the city of London, and a third ten miles away. The walls consist of reinforced concrete blocks. Any attempt to remove a single block will give an electric alarm." In her new dress, the Old Lady of Threadneedle Street will be well guarded!

A recent issue of "The Hardware Trade Journal" has a picture of a woman nail-maker, Mrs. Brettell, of Lye, in Worcestershire. She is shown at the anvil, hammer in hand, engaged on an order for South America. To-day, it is said, the hand-wrought nail-makers of England, male and female, could probably be counted on the fingers of two hands. In 1871 there were 23,231 such workers, most of them females, and the earnings were from 12/- to 16/- per week for men, 6/- to 8/- for women, and 3/- to 5/- for children. The introduction of machinery has made a great change in the industry, a change for the better from every standpoint. In those "bad old days," as the paper calls them, a boy not yet in his teens was expected to turn out as many as 1000 nails in a day. How many hours the "day" held is not stated, but I expect it was more than eight, or even ten.

We are all prepared to find beetles boring into earth, and even into wood. But when we hear of them boring into metal we are surprised, and even sceptical. Yet beetles capable of boring lead at least are known in different countries, Australia included. From Edithburg, in South Australia, it was recently reported that the lead covering of telegraph cables had been pierced by such creatures, and officers of the Postal Department say it is no new thing. They encounter it regularly in certain places, and put the cost of making good the damage at about £1000 a year. At Bundaberg, in Queensland, for example, the telephone cables have to be renewed every three months because of attack from these borers. The beetle in question is said to be a long-lived insect more than an inch in length, with very strong piercing jaws, and its scientific name is "agrianome gemella."

At 74 years of age Mr. Alfred Aloysius Smith was peddling gridirons and toasting forks around the suburbs of Johannesburg by "Trader Horn" day and sleeping in a doss house by night. Among others he approached with his hardware was a Mrs. Lewis, at whose suggestion and with whose assistance he sat down to write the story or alleged story of his life. The result was "Trader Horn," of which it is said 160,000 copies have been sold in America alone. And at 75 the wizened old trader is a celebrity with a good income, and the world, or a part of it, at his feet. Full of prejudices is the old fellow, as the following extract will show:—"Never cared for Stanley, us traders. 'Twas no love of humanity made him go after Livingstone. 'Twas nothing but newspaper ambition. Always wanted the spotlight turned on him." And Livingstone: "Why, Livingstone killed more men than ever I did, with all me rubber and ivories. . . . Ladies in Hyde Park praying for 'im and handing on the wherewithal while we traders had to struggle to open up a country in decency." As for Cecil Rhodes: "He was always a feller open to novelties. He could never keep his hands off a novelty, whether prickly-pear brandy or a lion with a wooden leg, same as he bought from Honest John. Like a lad in a toy-shop, Rhodes."

Novelties and New Samples

Low-Priced Spoons and Forks.

S. Hoffnung & Co. Ltd., of 163 Pitt-street, Sydney, are sole distributors in Australia of "Steelite" rustless nickelled spoons and forks, a feature being the remarkably low price at which they can be sold to actual users. Made with a steel base, they are tinned and nickel-plated, and are guaranteed stainless for all ordinary purposes.

For Painters and Glaziers.

Colin Maxwell & Co., 379 Kent-street, Sydney, have lately received a new range of samples from Ewald Ahrem, Elberfeld, Germany, comprising putty knives, both flexible and stiff, painters' scrapers in five widths from 1 in. to 3 in., also glaziers' hammers featuring the head fastened with two steel tangs. Other innovations are grainers' combs in sets of twelve, assorted teeth, and leather-grip hacking knives in both bent and straight patterns.

Lighting and Heating.

Mr. T. W. Sands, of 372 Lonsdale-street, Melbourne, advises a shipment of "Aladdin" lamps, mantles and chimneys. Both table and hanging patterns are available, and Mr. Sands is now able to supply at the lowest factory wholesale rates. Stores which handle these lamps have found the business profitable. Their efficiency is beyond question, and the sale of mantles and accessories provides an important addition to the turnover.

Another useful line is the "Royal" self-heating iron, a stock of which has now come to hand. It is easy to handle, and appeals greatly to the country housewife, its cleanliness and simplicity of regulation removing the discomfort of ironing by the old methods.

Cutlery and Electroplate.

A large range of Firth stainless steel cutlery and E.P.N.S. ware is being shown by J. L. Walters Ltd., 222 Clarence-street, Sydney, on behalf of Thomas Ibbotson & Co., Sheffield, England. Canteens, carver sets fitted in ornately decorated cases in green and gilt are prominent, while cheese servers and eaters, any-time spoons, fruit spoons, potato and fruit peelers, carded and cased children's sets, fish eaters and afternoon teasetts augment the showing of the stainless variety. Under the category of E.P.N.S. are jam, butter and sugar spoons, together with cake forks in a varied assortment of shapes and sizes. Other lines which command attention are hunting and sheath knives, and also lamb-marking and footrot knives.

Swedish Innovations.

A new departure of B. A. Hjorth & Co., Sweden, represented by Walter A. Cox Ltd., 195 Clarence-street, Sydney, is the introduction of sets of five and eight drop-forged double-ended spanners, designed for motorists and produced from case-hardened Swedish steel, nicely mottle finished. A knurled-headed screw bolt in the centre holds the sets together. It is claimed for these tools that they are hardened to such a degree that they will resist filing, and therefore remain "true" under severe usage.

Another line is an improved nail puller of "Barco" brand for packing cases. This is also made from selected Swedish steel, and is so designed that nails may be withdrawn without bending, thus enabling them to be used again. Each tool is well oiled and separately wrapped in wax paper and packed in a cardboard box. The length when closed is 17½ in., and the weight 5 lb.

Continental Woodware.

Horn & Co., of Bank House, Bank-place, Melbourne, have recently received samples from Friedrich Bader, of Sussen, Wurttemberg, manufacturer of wooden household appliances. This is an excellent range of kitchen sets, dinner trays, wood spoons, knife boxes, cutting boards, towel rails or laundry dryers, butter pats, potato mashers, steak beaters, coat hangers, and similar lines. A useful article which is seldom seen in this ware is an egg holder. This disposes of the problem of keeping the household egg supply safely without breakage. A simple tray is fitted on four feet, bored to hold a dozen or so eggs as required. Provision is made for resting a second tray upon the first when needed.

The factory represented is devoted entirely to the production of woodware. A comprehensive range is offered, prices are exceptionally low, and the finish and whiteness of the goods specially attractive. Both maple and beech are used, and either may be specified in ordering.

New Alloy in Bathroom Fittings.

Samples are now being displayed by Ryall & Brock, of 360 Post Office-place, Melbourne, of bathroom fittings made of a new aluminium alloy known as "Aloyumin." These are from Lan-Bar Diecastings Ltd., of Birmingham, for whom the above firm act as representatives.

This new alloy is stronger and harder than ordinary aluminium; it is impervious to rust or tarnish, and retains a very high polish. No indication is given, of course, as to the exact composition of the material, except that the makers' guarantee it to be "free from spelter, iron, or other injurious matter." Whatever the alloy may be, it is obvious that its great strength, lightness and ductility make it most suitable for the purpose to which it has been turned by the discoverers.

In appearance "Aloyumin" is silver-like, and requires no polishing. A dry cloth is all that is needed to keep it in perfect condition. Many of the articles are coated with porcelain enamel, a process to which the metal is specially adapted. In addition to the white enamel, a wide range of colours is also supplied, permitting an endless choice of shades.

The lines include hat and coat hooks, in many designs; treble and quadruple swivel hooks and wardrobe hooks generally; single and double towel rail brackets and tubing; toothbrush holders, tumbler holders, toilet paper holders, shelf brackets and glass shelving, swing towel rails, name plates and figures, and sponge holders of all kinds.

Altogether the range is most interesting. The fine appearance of the material and the attractive designs, together with the prices, which are unusually low for this class of fittings, should ensure a ready market in Australia and New Zealand.

New Lines From Switzerland.

Erwin Miller & Co., Sheffield House, 310 Pitt-street, Sydney, as Australian and New Zealand agents for Sigg Ltd., of Frauenfeld, Switzerland, are showing samples of "Arta-ware," the outcome of a new process for decorating aluminium. The display comprises vases, jardinières, and flower bowls of many shapes and designs, a novel feature of the smaller bowls being that they are equipped with an inset of removable fern or flower pots, which can be taken out and replaced without trouble. The new process not only gives a brilliant lustre, but lends itself to the employment of a variety of colour schemes and artistic embellishments, with the added advantage that the colouring will not fade, rust or

tarnish. The larger vases are of pleasing design and are richly coloured, but they do not reach the same high standard as the smaller examples, these latter having the appearance of Cloissone work, or decorated china. In addition to those mentioned such household utensils as coffee and teapots are also made, and samples will shortly be available in Sydney.

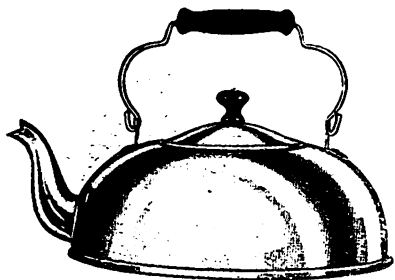


Another Sigg product is the "Vako" egg or cream beater, which can also be used as a whisk for ice cream, mayonnaise, omelette, custard and the like. The device is simple in operation, the plunger being enclosed in a circular aluminium container, and it is only necessary to raise and rotate the plunger for a few moments to bring the contents to the usable stage. A commendable point is that the utensil is seamless, having no cracks or crevices where food can lodge. It is cleaned with hot water by operating the plunger in the same way as for mixing the contents. The beaters are supplied in a variety of sizes, and a number of useful recipes are supplied with the printed directions.

Canadian Goods.

Boswell & Co., of 518-20 Kent-street, Sydney, are displaying a comprehensive range of "Economy" brand aluminium cooking and household utensils on behalf of Duro Aluminium Ltd., Hamilton, Ont., Canada. All the articles are clean and attractive in appearance, and it is claimed that durability has been increased by cross rolling under heavy pressure which, with a special stamping process, makes the metal in these goods denser and harder than obtains under other processes. All the utensils are full weight and full capacity depths.

Several lines of kettles are shown, featuring broad base of bottom to take the heat quickly and retain it. A line called the "Colonial" tea kettle with panel-embossed body is offered in five distinct capacities, while another of similar shape is a



convenient combination, accommodating a shallow saucepan at the top and utilising the steam from the kettle for an additional service. The latest line, known as a new improved "Daisy" tea kettle, is fitted with curved "lock-tite" seamless spout, which is secured by an improved process ensuring smooth pouring. It is also fitted with tinned wire bail made to stand erect when desired, and has a rubberoid wood grip. "Lock-tite" spouts are likewise applied to several lines of "Colonial" coffee percolators shown in a variety of different types of pleasing design and highly finished. Teapots feature high domed covers or lids and have rather distinctively designed rubberoid handle and knob. The range covers practically every class of kitchen utensil, including oval shape seamless roasters with close-fitting lids. What is known as a four-piece combination cooking set offers the service of ten different utensils. All the pieces are uniform in size and

match together very snugly, so that the many purposes for which they can be used in combination are practical and simple.

The McKinnon Industries Ltd., another Canadian firm, make a wide range of tools for mechanics and other craftsmen, including wrenches, pliers, hammers, screwdrivers, sledges, mauls, chisels for stone-masons and wood choppers, and drop forgings. This firm recently acquired the Canadian division of J. H. Williams & Co., who, in 1920, succeeded the Whitman & Barnes Mfg. Co.

They show extensive lines of wrenches of many patterns, from the heaviest engineering wrench down to the smallest required for finer mechanical work, including screw wrenches. The forgings are milled, fully polished, oil-hardened, and nickel-plated except in the largest sizes, where they are either burnished or black japanned with bright heads. All openings are milled larger than is stated in tables contained in their catalogue to allow for clearance of plus .005 or smaller to plus .015 on the larger tools. To the best of our recollection, we have not hitherto seen such an extensive list of wrenches as this, which appears to embrace not only a special class for particular trades, but virtually for every conceivable kind or class of work. Pliers, too, are in liberal variety, and for the most part are drop-forged from a fine grade of steel, carefully hardened and tempered and offered in several finishes, such as nickel-plated, black japanned and oil finish. The assortment of hammers is comparable in extent to the wrenches, each hammer being individually tested and fitted with an all-white, second-growth hickory handle, and in some cases duco finished. The range covers all requirements from small tack hammers to blacksmiths' and stonemasons' sledges and wood-choppers' mauls and chisels. Screwdrivers embrace round and square shanks, the blades being highly polished and fitted in the handle with nickel-plated ferrule. The end of the shank is winged so that it is impossible to turn in the handle; the latter, being stained red and varnished, makes the tool attractive in appearance.

Wall Plugs and Metal Polish

As agents for Metallic Wallplugs Ltd., of London, Motorite Equipments Pty. Ltd., 213-15 Queensberry-street, Carlton (Melbourne), are marketing several lines of interest to the hardware trade, and which should prove profitable to handle.

"Metlex" metal wallplugs are equally good for use in plaster and brick, granite, marble, stone, slate or tiles. No problem has given more trouble than that of a plug which will give perfect security without unduly damaging the wall material, and any appliance which does this job well is likely to be welcome in the trade. The "Metlex" plug is made slightly smaller at one end to facilitate insertion in the hole, while at the opposite end an overlapping lip ensures a tight fit when tapped in with a hammer. A screw is then driven into the plug, and as it is turned with the screw driver it slightly enlarges the plug, and gives the hole a solid metal lining. Into this lining the screw cuts its own thread, and thus a remarkably firm grip is obtained.

This seems an excellent device for the purpose, and very simple in use. A handy set for the home is packed in a compact little box. The set contains a good supply of screws and hooks in addition to plugs, and a most efficient tool with which to drill the hole. With this outfit a plug may be fitted in the hardest stone or brick without trouble. It is sold at a quite reasonable price.

"Metalglint" a liquid polish for all metals is made by the same people. It is packed in tins with a screw top, attractively put up and labelled. A trial of the preparation shows it to be equal to the claims made by the makers, and the capacity of the package indicates that the value compares more than favourably with similar products.

Make the Advertising Pay

A Page of Hints and Helpful Criticism

Send Us Your Ads ∴ Let Us Solve Your Problems

Pulling Together.

Speaking to members of the Victorian Institute of Advertising, Mr. H. C. French, manager of the Ford Motor Co. of Australia, is reported to have said that "he did not believe that advertising was the alpha and omega of any great business. There was no central pivot in any large commercial enterprise; each department must march in step with the others to produce success. Interchange of thought between a general manager and an advertising manager was essential, because advertising was the mouthpiece through which a business talked to the people it sought to serve. He believed that a general manager should read every sheet of advertising copy as a safeguard to protect the public and the prestige of the business. If that were a general practice, many of the exaggerated statements, untruths, inconsistencies, and the over-use of superlatives that appeared in advertisements would be eliminated. The most productive class of advertising was the sales copy, if it were backed up with an assertive selling effort. Institutional advertising was greatly overdone, and publicity should be used only with discretion. It was perhaps the most abused branch of advertising, and should be used only when it carried definite news value. The abuse of publicity advertising had had the effect of destroying its own purpose by breaking down public confidence and goodwill."

We are inclined to think that Mr. French's remarks are very timely. Advertising managers, in their professional enthusiasm, are apt to forget that there are other pebbles on the beach; on the other hand, in so many businesses are to be found executives who regard advertising men with a sort of amused tolerance and contempt, and possibly a certain amount of suspicion. Therefore it is refreshing to hear a man of Mr. French's standing reminding his listeners that "there is no central pivot in any large commercial enterprise."

It reminds us of a little story of a Scottish secretary who informed a meeting of shareholders of the wonderful economies effected

through the efficiency of the office. "Otherwise," said he, "what with manufacturing difficulties and transportation costs, it is doubtful if a dividend would have been possible." Thereupon, the factory manager—who happened to be present—arose and congratulated him on the splendid achievement, and suggested that, as the office was apparently the only paying department, the company should close the works and keep the office open!

How often have we heard the same kind of thing; each departmental manager striving to show that his little "kingdom" is the one that really counts. Indeed, we know of a general manager of a large concern who openly says the advertising department, the despatch, the store, and the office are merely necessary evils parasitically existing on the vitality of the production rooms! These people forget that the crew that does not pull together seldom wins a race, and that the coxswain—the smallest man in the boat—is a most important member.

We agree with Mr. French that the general manager should read all the advertising copy in order to protect the policy of the firm, but we do not think he should try to teach the advertising manager his job, as sometimes happens in such cases. And it should not be thought that the advertising manager, in submitting his copy, is displaying lack of confidence thereby; perhaps that is why some ad-men dislike the idea.

Seven Essentials of a House Organ. (From an American Exchange.)

1. It must sell the house you are working for. It must sell each individual, from the office boy to the head.

2. It should be so attractive that every employee will look for it on the date of issue, and examine it so thoroughly that nothing escapes criticism, and not a point is missed.

3. The trade should get it on a special date, so that after a few

months they will look for it. It must be so informative that it is worth looking for.

4. Make it attractive, in a worth-while way.

5. Alternate with a light and heavy touch to your booklet so as to maintain interest from the first page to the last.

6. Give to those to whom your booklet is directed some certain information about their business and your business.

7. Make your booklet smoke with selling thought, timeliness and absolute honesty of purpose. It will soon show that it is the best salesman in the concern.

Says Mr. Herbert Hoover.

The notion that advertising in its broad sense is an economic waste has been long since abandoned. I have already mentioned its social use in advancing standards of living, and its economic influence upon mass production, and thus its contribution to lowered costs. More directly it is an economical form of distribution. The steady increase in volume of advertising in our news and periodical press is only one proof that it is such an economical form of distribution, for if it did not secure greater results at less expense it would decrease, not increase. . . .

The indispensable attribute of salesmanship is an understanding of the market. Competent salesmanship requires that its efforts be expended in territory and by methods which shall reach the maximum number of buyers at the minimum cost. It follows logically that sound market analysis must be an integral part of advertising salesmanship. All this requires hard, intensive, not superficial analysis. Research in these matters is like that in any other branch of economics. It takes time to develop experience and method.

"Quality begets confidence, Confidence begets enthusiasm, and Enthusiasm can conquer the world."

One step won't take you very far,
You've got to keep on walking;
One word won't tell folks who you are,

You've got to keep on talking.
One inch won't make you very tall,
You've got to keep on growing;
One little ad. won't do it all,
You've got to keep 'em going.

News from Abroad

Long Business Association.

In the April 20 issue of "The Hardware Trade Journal" appeared a portrait of Mr. J. J. Dawson Paul, head of Boulton & Paul Ltd., wire netting manufacturers, of Norwich, England, who has celebrated his eighty-seventh birthday. He had been associated with the firm for the long period of seventy-five years.

Oil Merger.

Texas Corporation and California Petroleum Corporation have consolidated interests, and will bring under one organisation properties valued at close to £113,100,000, and the combined stock at market valuation is given at approximately £92,600,000. It is of special interest to know that thousands of shares in the Texas Co. are owned in the British Empire.—Exchange.

Disputed Trade-mark.

British exchanges inform us that Tonks (Birmingham) Ltd. have successfully opposed an application by Samuel Heath & Sons Ltd., of the same city, for the registration of a trade mark in respect of brass-foundry. The mark which the applicants wished to secure was a representation of the sun with the words "in lux way." Tonks opposed on the grounds chiefly that a registered mark which they had used for over seventy years consisted of the representation of the sun with their initials. If Heaths' mark were registered they feared confusion and the Registrar agreed with them.

Borotra in South Africa.

Our Pretoria correspondent informs us that a private company has been promoted by Jean Borotra, the famous French tennis player, and Mr. P. C. de la Marliere, both of whom are described as civil engineers. The company has a capital of £5000 and is to be known as S.A.T.A.M., South Africa (Proprietary) Ltd., being really a subsidiary company of a large concern registered in Paris which deals in mechanical equipment. The principal operations are connected with metallurgy, foundry practice, and mechanical arts, while dealings in plant, machinery and other apparatus are to be transacted. The head of the company is at International House, Strand-street, Cape Town.—"Industrial and Commercial South Africa."

Reduction of Capital.

According to cabled reports, the shareholders of Baldwins Ltd. have passed resolutions reducing the capital from £8,000,000 to £4,213,568.

Sir Robert Horne, in presiding, said the company's present plight was largely due to the generous response that they had made to the Government's urgent requests during the war. They extended the plant to meet the nation's necessities, only to find when peace arrived that they had burdened themselves with capital charges which showed little or no return to the revenue. One branch that had been built at great cost during the war was responsible for a capital loss approximating £1,000,000.

With head office in London and works at different places in England and Wales, Baldwins Ltd. are ironmasters and colliery proprietors. They have long been known in this part of the world, chiefly as makers of "Phoenix Crown" galvanised iron, and are represented here by Baldwins & J.C.M. (Aust.) Pty. Ltd., of Sydney and elsewhere. As shown in our last issue, they are parties to the steel merger recently registered as Australian Iron & Steel Ltd.

Trade-mark Case.

In Great Britain, within recent months, Mr. Justice Astbury heard an appeal from a decision of the Registrar of Trade Marks allowing the registration of the word "SturD" (with a big d) by Leedham & Heaton Ltd., of Leeds, in respect of picks, shovels and forks and handles for such tools.

The opposing firm were the Columbus Handle & Tool Corporation, of Columbus, Ind., U.S.A., manufacturers of similar goods, who had applied in Great Britain for the registration of their trade mark "SturdE" (with a big e), and had been refused on the ground that it was only a variety of the word "sturdy." They were now liable for infringement unless they could show that they were first in the field. For Leedham & Heaton it was urged that the mark they had registered was matter of great importance to them. No evidence of sale of the opposing company's goods in Great Britain had been offered.

After hearing counsel pro and con the judge dismissed the motion with costs.

Cargo Pillage Suggestion.

In connection with this matter of cargo pilfering, which is specially acute at the present time not only in Australia, but at many European ports, some importers abroad have been suggesting that the name of the manufacturer and the nature of his goods should not be marked on cases for export. This is often done for advertisement, and is doubtless of value in that respect, but the fact that it also saves the pilferer considerable trouble in his search for any particular lines must not be overlooked. At Marseilles, which, as our readers are well aware, is an important shipping centre for the distribution of French and Swiss textiles to Mediterranean, African and Eastern ports, a great deal of thieving is being reported at the present time, and it was only a month ago that reference was made in these columns to similar nefarious practices at Greek ports. Any methods which can be devised to minimise the serious losses being suffered should therefore be examined closely and continuously, and if strong action can be taken elsewhere on the lines being adopted in Australia some measure of relief should not be long in coming.—"The British Export Gazette."

German Clock Industry.

W. R. Volum & Co. Pty. Ltd., of York House, Little Collins-street, Melbourne, Australian representatives of Kienzle Uhrenfabriken A. G. of Schwenningen, Germany, have received word of the merging of that concern with the Haller interests. This linking up of the two clock-making companies has been definitely decided upon, although as yet the legal form of the merger is not actually completed.

Towards the end of 1927 the firms of Gebr. Junghans A. G. Hamburg-Americanische Uhrenfabriken and Vereinigte Freiburger Uhrenfabriken combined, following a discussion amongst the six largest manufacturers in Germany. This second combination is regarded as another step in the direction of a still fuller and more complete arrangement. The two groups resulting from these mergers now stand on an absolutely friendly basis towards each other, and intend to work together in close association.

The firms of Kienzle and Haller announce that from the linking of the two houses they expect "a material simplification of the organisation and of the entire apparatus of production." The close contact of the two works will, it is explained, lead to better technical co-operation, bringing more economical manufacture and reductions in expense. This will also benefit the German export clock trade, which is of considerable importance.

Interstate General News

Industrial Psychology.

The Australian Institute of Industrial Psychology has been registered in New South Wales as a company limited by guarantee. To promote and encourage the practical application of the sciences of psychology and physiology are given as the objects for which the company has been formed. The subscribers are Harry B. Sevier, Edward F. Keep, Alfred H. Martin, Robert J. Hawkes, James L. Heyworth, Leonard C. Robson and Albert E. Scanlon, and the registered office is in Sydney.

Large Order for Cash Registers.

The Remington Cash Register Co., which is a subsidiary of the Remington Arms Co. Inc., has sold to the United Shulte Shops five thousand cash registers in one transaction. They are to be distributed all over the United States, and the ultimate requirements of the purchasers are estimated at forty thousand—all Remingtons.

Mr. D. D. Bryant, of 395 Collins-street, Melbourne, C.I., is the Australian representative of the Remington Arms Co.

Fly-Catcher Machines.

The manufacture of fly-catchers is said to be a most profitable business, and one that presents no great difficulty. The firm of Ernst Cotte vorm. Oskar Sorgel, of Leipzig, supply an automatic machine which turns out the popular type of "sticky" fly-ribbon in quantity. They are makers also of prepared glue for the purpose, and, what is most important, the correct class of glue for the climate. Complete installations are supplied if required.

Another Queensland Oil Possibility.

Developments at Roma have caused the flotation of a company to exploit a flow of petroliferous gas on Beutel's farm at Brigalow, about 150 miles E.S.E. of Roma. Originally discovered by Mr. Beutel in sinking for sub-artesian water, the significance of the flow was not fully appreciated. It was cemented and bricked up, an ordinary tank tap being placed on the head. After the death of Mr. Beutel, about seven years ago, Mrs. Beutel, becoming alarmed at the escape of fumes, had the well filled in. Now the escape is receiving expert attention and the prospects are said to be very favourable.

New Rail Motor for N.Z. Railways.

A new electric tractor is being built for the electrified section of the New Zealand Government railways between Christchurch and Greymouth. This includes the Otira tunnel under Arthur's Pass, a tunnel 5½ miles long, and the new motor is to be used as a tower wagon for the inspection and

repair of overhead cables. The chassis has been built in England by Hardy Railmotors Ltd., of Slough, and the superstructure will be constructed in the local railway workshops to the design of the chief mechanical engineer. By substituting road wheels for rail wheels, the locomotive may be used temporarily for road transport.

Alleged Discovery of Helium

A discovery of helium is reported from the bore in Queensland of the Roma Oil Corporation Ltd., and although at the moment the quantity and commercial value has not been ascertained, the discovery is of great scientific value. According to the Petroleum Act of 1923, any helium discovered becomes the property of the Crown.

Exceeded in lightness by hydrogen alone, helium is much to be preferred to that inflammable and explosive gas for airship purposes, since it is chemically quite inert. The Great War greatly stimulated development in this direction, and the element is produced commercially from natural gases along a belt of country in the United States of America.

Misdescription of Paint Brushes.

In Sydney during the month attention has been directed to a line of paint and varnish brushes made in Australia and bearing the legend "rubber filled." On taking the tin binding from some of the brushes, it was found that the bristles were set with what appeared to be resin, or shellac, but no rubber at all was to be seen. The brushes were bought in good faith, there being no means of telling whether they were as represented unless they were taken apart and examined, a thing no buyer would think of doing in these days when descriptions are accepted at their face value. In many cases ultimate users would, however, discover the deception when the bristles began to fall out after having been dipped in benzine or other mineral oil, the rubber setting being proof against any such happening.

"Pettifogging Intermediaries."

At the annual dinner of the Retail Traders' Association of New South Wales the retiring president, Mr. R. H. Gordon, criticised severely the method of determining conditions of labour which obtain in that State. The speaker is thus reported:—"It is my opinion to-day that after all these years of trying to carry on our industry by awards, the system is an abject failure. I say to you gentlemen in the trade that it is your duty to try to evolve some better system, so that we can get to the real workers in our trade. From time to time we have all met union delegates, but one might as well meet a stone wall. If we are going to evolve some system by which we can reach the employees, let us do so without the assistance of some of those pettifogging

intermediaries who earn their living by stirring up strife."

New Zealand Chambers of Commerce.

The executive of the Associated Chambers of Commerce of New Zealand met at Wellington towards the end of May. Mr. D. J. McGowan was in the chair, and the other members present were Dr. Neale, of Auckland; Mr. H. C. Campbell, of Dunedin; Mr. W. J. Gilberd, of Wanganui; and the secretary, Mr. C. M. Bowden.

Various matters were discussed, including the current rates of bank interest, third party insurance, shipping and transport, odd or church calendar holidays, a fixed Easter, and business competition from State departments and municipal bodies. The rates of interest charged by the banks are considered too high, and further representations are to be made on the subject. A fixed Easter is considered desirable, and the elimination from the list of public holidays of saints' days is advocated. Regarding departmental competition, the feeling was and is that where trading is undertaken by the State, or by any municipality or other local body, such trading should be on fair terms, and subject to the same licences, taxation and restrictions as are imposed on private ventures.

"Made in Australia" Exhibition at Geelong.

It has been decided to hold a "Made in Australia" Exhibition in Geelong, Victoria, during the first week in August. The State Premier (Mr. E. J. Hogan) is to be invited to declare the exhibition open.

It is fitting that Geelong should hold such a display, the city having developed into an important manufacturing centre. The names of the various executive officers are sufficient guarantee of the weight behind the movement. They include Messrs. W. B. McCann (Australian Cement Ltd.), chairman; C. N. Brown (J. C. Brown & Co.), vice-chairman; H. Bechervaise (Cheetham Salt Pty. Ltd.), treasurer; R. W. Dobson (M. Donaghy & Sons Pty. Ltd.), R. H. Meakin (engineer-in-chief Melbourne Electric Supply Co. Ltd.), W. R. Redpath (Excelsior Woollen Mills), and H. C. French (Ford Motor Co. of Australia Pty. Ltd.). The honorary secretary is Mr. E. J. Fairnie, the secretary of the Returned Soldiers and Sailors' Woollen Mills.

Dennys, Lascelles Ltd. have placed their large showrooms at the disposal of the committee. These comprise two floors of ample extent, one of them having no posts.

The Trans-Pacific Flight.

In the flight from America to Australia, which has ended so successfully, both countries share the honours. Organised and commanded by an Australian, Capt. C. Kingsford Smith, with Mr. C. T. P. Ulm, another Australian, as second pilot, the two other members of the crew were Americans, Capt. H. Lyon, the navigator, and Mr. J. Warner, the wireless expert. Not only so, but the huge Fokker monoplane, appropriately named the "Southern Cross," was built and engined in America. The big vessel is equipped with three engines of 200 h.p. each. And on the long journey from western America to eastern Australia, with stoppages at Honolulu (Hawaiian Islands) and Suva (Fiji), she was kept going on the mechanical side by the Union Oil Co. of California, whose headquarters are at Los Angeles. "Union" motor spirit and "Atlantic" lubricating grease of this company's production were used throughout. Seeing that the flying time from Oakland to Brisbane was 83 hours 13 minutes, and that from 32 to 34 gallons of

petrol were needed every hour, the total consumption must have run into thousands of gallons. In this part of the world the suppliers are represented by the Atlantic Union Oil Co. Ltd., with head office at 66 Pitt-street, Sydney; and branches at 40 Queen-street, Melbourne; Dominion Buildings, Wellington; and Tasman Building, Anzac-avenue, Auckland.

Foundry Changes Hands.

From July 1 the foundry and engineering works of Humble & Sons, Geelong, Victoria, were taken over and carried on by three members of the staff, Messrs. F. C. Dickens the works manager; R. Beard, the foreman pattern-maker; and V. G. Trigg, the secretary.

Established by the late Mr. William Humble in 1862, the business is one of the oldest of its kind in Victoria. The firm-name and situation have changed in the interval, but Geelong has held Humble's foundry all these years. Beginning as Humble & Simmons, the title became in turn Humble & Co., Humble & Nicholson, and, in 1900, Humble & Sons. It was then that Mr. Nicholson went out, and his interest was acquired by the senior partner's three sons. The oldest of these three died in 1915, and the father, full of years and honours, two years later. Both the other sons are now retiring, and for the first time in its history there will be no Humble on the management. For the Victorian railways, as well as for private enterprise in Geelong and elsewhere, the firm have done a great deal of important work. When, in 1912, the jubilee was celebrated, they were employing over one hundred men and boys. They still have a good demand for Ferrier's wool press, of which up to 1912 they had built 1769, as well as wool presses of other types. The local rope works and woollen mills have always been good customers.

City Home of Country Traders.

The Country Traders' Association of New South Wales have entered into possession of their new home at 116-18 Clarence-street, Sydney, a modern building of six floors and a basement. The whole building will be used for stock and office purposes, the former consisting mainly of groceries and hardware, the only softgoods carried being the residue of indents. The other lines mentioned are indented as well as drapery, business being confined to country storekeepers. No trade is done in the city.

At the official opening on June 7 the president of the association (Mr. G. A. M. Nankervis) occupied the chair, and the visitors included the acting Premier (Mr. E. A. Buttenshaw) and other members of the State Parliament. Various matters affecting the life of country storekeepers were touched upon by the various speakers. For twenty years, said the chairman, they had been trying to secure the passage of early-closing legislation, so far without success. Admitting the importance of primary production, it should not be forgotten that the storekeeper helped to keep the farmer and grazier on the land during lean periods. Mr. Buttenshaw acknowledged the part played by the storekeeper in thus promoting primary interests, a part which did not receive the recognition it deserved. Many country people were quite ready to run up an account at the local store and send their cash to the mail-order houses in Sydney. This was a state of things which ought to be remedied.

Mr. J. H. King, the general secretary of the association, also controls the activities of the Country Traders' Insurance Ltd. The treasurer is Mr. O. J. Howard, while Mr. F. L. Hodgkinson is the manager of Country Traders Ltd.

Men of Iron.

In a Melbourne evening paper, "Wells in Clubland" is an occasional feature, Wells being an artist in black and white. Some days ago, and under the title "Men of Iron," he presented the committee of the Victorian Hardware Club, with the president, Mr. J. G. Black, J.P., occupying pride of place. A baker's dozen and more or less recognisable, the committee have their prominent features accentuated, and their shop connections suggested in some cases.

Apprenticeship in Victoria.

Under the legislation passed in Victoria last session an Apprenticeship Commission has now been established. The members are Mr. E. P. Eltham, chairman; Messrs. M. Eady and T. G. Nettlefold, representing the Victorian Chamber of Manufactures; and Messrs. J. H. Bradshaw and H. E. Foster, nominated by the Trades Hall Council. Mr. Eltham is senior inspector of technical schools, Mr. Eady is connected with McPherson's Pty. Ltd., and Mr. Nettlefold with the Hume Pipe Co. (Aust.) Ltd., while Mr. Bradshaw is secretary of the Plasterers' Society, and Mr. Foster secretary of the Plumbers' Union.

The Utilisation of Coal.

Most people know that the use of coal direct under boilers as fuel is most uneconomical. A large part of the heat is lost, because coal represents a mixture of gas, tar vapours and fixed carbons or coke, and most coals at a temperature of 150 deg. C. start giving off gas, at about 250 deg. tar vapours and only at 400 deg. C. does the coal begin to burn. In order to achieve complete combustion these respective parts of the coal require a different supply of air and a different temperature.

The subject has long engaged the attention of gas engineers and others in different parts of the world, and with the call for oil fuel and the position financially of coal production a greater intensity and a new direction have been given to these investigations. At the present time it is stated that every ton of coal raised in the United Kingdom means a loss of about 1/2. Even with Government subsidies this sort of thing cannot go on for ever.

Much is expected of a carbonisation system patented throughout the world by Dr. Paul Dvorkovitz, a well-known Russian fuel technologist, who has lived for many years in Great Britain. In his laboratory plant Dr. Dvorkovitz has obtained as much as thirty-one gallons of crude oil from a ton of ordinary English coal, coal which before the strike in the industry realised from 7/- to 15/- per ton at the pit mouth. After part of the volatile hydro-carbons had been removed some thirteen hundredweight of an excellent smokeless fuel was left behind, and the combined value of the liquid and solid components of the ton of coal is given as 27/6. This suggests the practical value of the process.

The rights in the Dvorkovitz process for the United Kingdom and the Isle of Man have been obtained by the Motor Fuel Proprietary Ltd., who for the present are confining their operations to the issue of licenses to users of the patent. These are obtainable on a royalty basis. The Australian rights have been secured, we understand, by Mr. Claud de Bernales, of Perth, Western Australia, who visited Europe at the end of last year and made full inquiries regarding available methods of coal carbonisation. So impressed was Mr. de Bernales with the possibilities of the Dvorkovitz process that he purchased the Commonwealth patent and is forming a company to work it in Australia.

Trade of the Commonwealth.

The Quarterly Summary of Australian Statistics (March, 1928) gives the value of the principal articles of merchandise imported during the March Quarter, 1927 and 1928, and during the first nine months of the financial years 1926-27 and 1927-28. Following are the lines of direct interest to our readers:—

	1927	1928	1926-27	1927-28
	£	£	£	£
Cordage and Twines (excluding Metal Cordage)	41,848	40,665	198,205	217,345
Oils				
Kerosene	270,226	224,702	878,584	688,481
Linseed	20,486	29,044	60,769	70,009
Lubricating (Mineral)	306,586	175,159	848,470	698,711
Petroleum Spirit	1,901,030	1,715,749	4,998,365	4,785,687
Turpentine	15,041	28,901	130,775	126,393
Other	336,118	381,219	1,007,856	985,709
Electrical Machinery and Appliances				
Batteries & Accumulators	234,551	145,253	619,828	566,218
Cable and Wire, covered	443,521	388,452	1,345,605	1,303,617
Dynamo Electric Machines	246,164	216,560	804,853	734,572
Lamps, Filament, for lighting and heating	159,080	153,311	440,920	419,741
Telegraph Instruments etc. Telephones and T'phone switchboards, etc.	168,801	182,801	565,722	644,358
Other	584,673	462,004	1,849,219	1,717,741
Implements and Machinery (Agricultural, Horticultural etc.)	191,760	103,980	620,078	610,725
Metal-working Machinery	139,820	146,837	457,791	400,758
Motive-power Machinery (except electric)	601,314	633,545	1,865,013	1,997,343
Printing Machinery	166,709	122,110	396,121	351,825
Sewing Machines	165,225	146,037	473,457	425,067
Yarn-making & Textile-making Machinery	128,147	113,158	384,910	384,066
Other Machines and Machinery	972,377	857,130	2,789,790	2,749,820
Alloys	96,145	72,028	297,976	226,378
Bolts and Nuts, Rivets and Washers	84,927	71,247	243,165	208,179
Iron and Steel Bars, Rods, Hoop, Ingots, etc.	367,928	240,744	796,940	936,949
Beams, Channels, Girders Joists, etc.	73,797	76,280	151,181	393,181
Pig and Scrap	12,978	23,765	48,600	61,548
Pipes and Tubes	428,322	421,985	1,183,723	1,165,374
Plate and Sheet				
Galvanized-Corrugated	462,130	254,315	1,244,913	1,451,942
Galvanized-Flat	163,708	86,425	375,298	473,629
Plain	240,853	205,389	515,160	964,619
Tinned	483,471	252,264	1,003,711	951,271
Rails, Fishplates, Fishbolts etc.	30,639	99,729	52,483	220,114
Wire	127,590	104,324	473,799	347,640
Lamps and Lampware	173,889	110,116	449,360	319,612
Plated Ware and Cutlery	304,508	164,996	839,137	664,481
Tools of Trade (not being machines)	329,363	271,822	987,722	844,028
Other Metals and Metal Manufactures	1,205,503	1,041,345	3,564,144	3,326,935
Cement (Portland)	17,231	19,582	49,894	54,091
Crockery and other Household Ware	210,146	149,033	589,637	613,083
Glass and Glassware	340,646	303,977	1,032,702	988,821
Other Earthenware, Cements China and Stoneware	144,984	97,565	350,922	298,637
Brushware-Vacuum Cleaners (household)	73,192	44,784	188,022	157,516
Other	54,756	45,414	247,007	201,474
Grand Total	42,242,071	35,609,780	126,227,253	116,606,696

Commonwealth Tariff Decisions

The following decisions of more or less interest to the hardware trade have been made during June. By way of explanation, it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (5/6/28, and so on) the date on or from which the new decision took or takes effect:—

Electrical Appliances and Materials—

28/447 Dials, Bakelite 332 (b) 5/6/28

Enamelledware—

28/448 Steel, glass-enamelled, not elsewhere provided for. 204 (b) 5/6/28

Gas Appliances—

28/451 Fires 180 (c) 5/6/28

Note.—The reference to Fires, Gas, in "Guide," page 127, is to be cancelled.

Machinery, Machines, etc.—

28/453 Mortising Machines, Hand-operated, of the artisans' portable type. (By-law No. 1041, Wood-working). 174 5/6/28

Note.—By-law No. 851 and T.D. 28/184 are to be cancelled, but any Hand-operated Mortising Machines which were in direct transit to Australia on 5th June, 1928, and which, but for this decision, would be admissible under Tariff Item 174, may be admitted under that Tariff Item.

Machinery, Machines, etc.—

28/454 Turning Machines, Variety (By-law No. 1042, Woodworking). 174 2/5/27

Mortisers—

28/455 Hand Lever, of the artisans' portable type. (By-law No. 1044). 219 5/6/28

Note.—By-law No. 719 and T.D. 28/7 are to be cancelled, but any Hand Lever Mortisers which were in direct transit to Australia on 5th June, 1928, and which, but for this decision, would be admissible under Tariff Item 219, may be admitted under that Tariff Item.

Cabinets—

28/467 Oil Stove, Metal, imported separately, or with stoves unless an integral part of the stove. 208 (a) 11/6/28

Note.—The reference to Oil Stove Cabinets, etc., in "Guide," page 45, is to be cancelled.

Electrical Appliances and Materials—

28/470 Cords with or without terminals affixed thereto whether imported with loud speakers or separately, for use in the manufacture of Wireless Receiving Sets. (By-law No. 1066). 404 23/9/27

Note.—The reference, viz.:—"Cords for Loud Speakers for Wireless Receiving Sets"—See "Telephones, etc.," appearing in Tariff Decision List, dated 26th February, 1927, is to be cancelled.

Electrical Appliances and Materials—

28/471 Telephone (Wireless) Plant, Parts of, viz.:—

Loud Speakers for use in the manufacture of Wireless Receiving Sets. (By-law No. 1066). 404 23/9/27

Note.—The reference to Loud Speakers, etc., for use in the manufacture of Wireless Receiving Sets, in Consolidated By-laws, page 91, and in By-law No. 71, and T.D. 27/130 are to be cancelled.

Inflators—

28/472 Tire, built into engines imported forming part of a complete motor car or motor truck chassis—

Hose, rubber 332 (b) 11/6/28

Pump 359 (d) (4)

Note.—T.D. 23/716 is to be cancelled.

Iron and Steel—

28/473 By-law No. 639 and T.D. 27/915, having reference to Angles, Steel, $\frac{1}{2}$ in. x $\frac{1}{2}$ in. x $\frac{1}{4}$ in., for use in the manufacture of Steel Window Frames, are to be cancelled, but any such Steel Angles as were in direct transit to Australia on 11th June, 1928, may

be admitted under Tariff Item 404. (By-law No. 1,067.)

Machinery, Machines, etc.—

28/474 Collets 176 (f) 11/6/28

Machinery, Machines, etc.—

28/475 The reference to Lighting Plants, consisting of an internal combustion engine not exceeding 4 h.p., direct-coupled to a generator, including switchboard and automatic cut-out, but not including batteries, in Consolidated By-laws, page 14, and in By-law No. 25, and T.D. 26/502, are to be cancelled, but any such Lighting Plants as were in direct transit to Australia on 11th June, 1928, may be admitted under Tariff Item 174. (By-law No. 1,064.) 11/6/28

Ovens—

28/478 Oil Stove, imported separately or with stoves unless an integral part of the stove. 208 (a) 11/6/28

Note.—The reference to Ovens for Oil Stoves, etc., in "Guide," page 257, is to be cancelled.

Pulls—

28/480 Blind, being metal rings covered with cotton cordage and having cords attached. 122 11/6/28

Stoves—

28/481 Oil—

Cabinets and Ovens therefor—See under "Cabinets" and "Ovens" respectively.

New Perfection, with metal tag bearing words "Use only Laurel Kerosene" attached, including frames, but not including cabinets or ovens unless an integral part of the stove 206 (c) 11/6/28

Note.—T.D. 24/807 and the under-mentioned references in "Guide," page 356, are to be cancelled, viz.:—

New Perfection, No. 5, etc.

New Perfection, No. 6, etc.

Oil, Perfection, etc.

Cabinets and Ovens, etc.

Wire—

28/482 Loop Antenna, Cotton Covered, for inside aerials, for use in the manufacture of Wireless Receiving Sets. (By-law No. 1,066). 404 23/9/27

Copper—

28/494 Strips, plain or tinned, unpolished, 12 inches and under in width and finer than No. 30 gauge (I.S.W.G.), for all purposes. (By-law No. 1069). 404 12/4/27

Note.—T.D. 27/126 and the reference to Copper Strips for use in the manufacture of Roller Shutters in By-law No. 71, and in Consolidated By-laws, page 110, are to be cancelled, as redundant.

Iron and Steel—

28/497 Wire Rod in Coils—The term "Wire Rod in Coils" in Tariff Item 136 (c) (2) is to be interpreted as covering iron and steel which has been rolled only (and not further manufactured) into the form of wire rod in coils.

Machinery, Machines, etc.—

28/498 Gauges, Recording, for pressure and/or suction and/or vacuum. (By-law No. 1068). 174 6/7/27

Note.—The reference to Time and Pressure Recording Machines, etc., in "Guide," page 204, is to be cancelled.

Machinery, Machines, etc.—

28/500 Motors, Spring, for use in the manufacture of Revolving Display Stands. (By-law No. 1070). 404 19/12/27

Paints, Colours, Varnishes, etc.—

28/501 Chromium Oxide (Green) for use in the manufacture of Cement Roofing Tiles. (By-law No. 1071). 404 10/4/28

Soldering Apparatus—

28/503 For hard and soft soldering, in which carbide and water are used to generate gas for heating purposes, comprising—
Lamp and fittings, including rubber tubing (as a Plumbers' Blow Lamp) 219
Soldering Iron (or Bit) 190

Textile Tool Bag for holding tools and fittings	122	18/6/28
Note.—Descriptive Pamphlets forwarded to Collectors.		
Wire—		
28/506 The reference to Bronze Wire for all manufacturing purposes in Consolidated By-laws, page 76, and in By-law No. 71, and T.D. 25/619 are to be cancelled, but any such Bronze Wire as was in direct transit to Australia on 18th June, 1928, may be admitted under Tariff Item 404. (By-law No. 1074.)	..	18/6/28
28/507 Deferred Duties (Deferment Notice No. 31)—		
The operation of the deferred duties under the undermentioned Tariff Items has been further postponed to the date shown respectively opposite each Item:—		
Item 118 (c) (1). Plain Linoleums and Floor Coverings having a similar surface, not printed or inlaid.	..	1/10/28
Item 168 (b). Sewing Machines, Treadle or Hand, of the type ordinarily used in the household—		
(1) Machine Heads, whether imported separately or forming part of the complete machine, including accessories except wrenches and oil cans.	..	1/1/29
Item 179 (d) (3) (c). Electric Household Dish Washing Machines.	..	1/10/28
Item 181 (a) (2). Valves for Wireless Telegraphy and Telephony.	..	1/7/29
Item 194 (d). Chain, n.e.i., not made up into serviceable articles—	..	1/10/28
This further postponement does not apply to Brass and Copper Chain (curb and trace pattern) made from wire of ½ mm. to 3 mm. in thickness, both sizes inclusive, for which see T.D. 26/564.		
Item 397 (d). Powder, Sporting; Wads for Cartridges, n.e.i.; Caps, Percussion; Cartridges for military purposes; Detonators; Cartridge Cases, empty, capped or uncapped; Fuse Cotton; Mining Fuses, electrical.	..	1/1/29
Vices—		
28/515 Engineers:—		
Parallel-jaw type use on the bench by artisans, when over 2in. jaw.	208 (a)	30/6/28
Parallel-jaw type Vices, 2in. jaw and under. These are not Engineer's Vices.	219	
Note.—The following references in "Guide," page 397, are to be cancelled, viz.:—		
Engineer's Parallel-jaw type, etc.		
Engineers, other.		
Parallel-jaw Vices, 2¼in. jaw, etc.		

Statistics in Business

On June 15 a most interesting address was delivered by Professor A. H. Tocker, of Canterbury College (N.Z.) before a largely attended gathering of members of the Christchurch Hardwaremen's Association.

Mr. A. F. Drayton, president of the association, occupied the chair and, in expressing his pleasure at the large attendance, explained that the lectures had been instituted originally with the desire to enable employees to keep in touch with one another outside the walls of their business houses, and also as a means of educating them. Previous lectures of this kind, he said, had been extremely popular, and he was sure a great deal of interest would be taken in the programme which had been arranged for the winter months.

In his opening remarks, the lecturer said statistics were one of the catchwords of to-day. They were really the methods of science applied to social

and business affairs to obtain as exact a knowledge as one could of the past, present and probable future. Referring to their use in various avenues of life, he showed what had been accomplished by their agency in the rearing of children. They had focussed attention on what was taking place, and provoked reform.

Directing his remarks to statistics in business, the speaker said that all sorts of things varied with business conditions. When business was bad there were more bankruptcies, more people in the police court, more unemployment, and so on. What were the extent and variation in conditions? Statistics were called into use, and in this way the variations were measured on charts, the different aspects of the business cycle were made known, and adjustments made accordingly. The result was that the variation had lessened.

In 1926, when the depression started in New Zealand, those familiar with statistics were able to forecast what was coming. The depression was found to be due to a falling off in export prices, and bigger expenditure in imports. During the last season there had been an upward swing of prices for exports, which were £12,000,000 more, and one did not see what was going to stop this upward recovery after the winter. The same thing had happened again and again—the fall in export prices resulting in business depression and unemployment.

With the growth of markets and commerce, there had been a big change in the administration of business. One authority had stated that business was the measure of the capacity of a man; now it was the measure of the capacity of an organisation. Success in business to-day depended on team work, and this in turn depended on the organisation from above, and statistics played a large part in that organisation.

The owner or manager of a business did not handle everything himself; he delegated the duties to other men, but he must study results, and on these formulate the general policy of the business. Quite often one found amongst some of the older-fashioned business men a great commercial instinct, a better understanding than his rivals of the various complexities governing his business. To-day it was different. Men studied the technique of a business understanding based on statistics than could be got secting the various problems they obtained a better—the various facts it presented—and through dis-otherwise.

Referring to the study of departmental sales and the comparison of accounts, the speaker said these were quite useful, but did not go far enough. Technique enabled the figures to be simplified and more readily understood, such as by reducing them to percentages or plotting them in groups. The trick of reducing them effectively was most valuable, as the proportions stood out clearly and enabled a comparison of departmental cycles to be made. One found that the business of a certain department was subject to variations, but with the ordinary figures their significance was lost. With a graph, however, it would be easy to find the variations at any given period and see at a glance where contractions or expansions were occurring. The presentation of these facts was extremely important, and gave a definite knowledge of the business, and not a knowledge based on opinions or guesses. The facts could be more readily grasped, and on this basis could be built up a constructive imagination for development.

On the motion of the chairman, a hearty vote of thanks was accorded to the speaker.

How a Period of Depression Prepares the Way for a Revival of Business

By J.R.B. (78/229)

A period of depression, such as we are experiencing, with its sad accompaniment of unemployment, is an inevitable result of a prior cause—an era of inflation due to extravagant spending of money easily gained and easily borrowed. There were a few courageous enough to believe and to foretell that when the Government issued from forty to fifty millions of promises to pay in the form of Australian notes (without any relation to production), which made possible the vast subscriptions to the war loans and the enormous volume of deposit currency created by the banks, the great inflation thereby made possible would inevitably be followed by a back-wash of liquidation and depression after the peak of the inflation had been achieved. This back-wash in Australia has been postponed by several adventitious circumstances—good seasons, high prices for products, the wonderful success of the B.A.W.R.A. scheme, lavish expenditure of loan moneys, which increased the spending income of Australia by many millions a year, being obvious examples.

A Moving Equilibrium.

But the course of economic phenomena thus rising above the normal by such abnormal happenings sets in motion forces which tend to drag the course down below the normal—which we are now experiencing; and this in turn will, as surely as the law of gravitation, create the conditions necessary to bring about in due course a return to normal, healthy progress such as a rich and sparsely peopled country as Australia is must experience. Thus the course of economic life is a moving equilibrium, sometimes rising above and sometimes falling below the line of healthy progress, which variations set in motion the energies arising out of the abnormal conditions which bring about a return to the normal.

The Psychological Force.

Perhaps the most powerful of such energies is the psychological, the spiritual. As Miss Maude Royden has just told us, "If we apply to the spiritual world what we have applied to the material world, we can set this world in order"; and the first step towards that consummation is to get rid of pessimism. "What a man thinketh in his heart that he is"; not only so, but what men think in their minds determines the values of things. As Professor Taylor, of Nebraska, writes, "Values of goods fluctuate in men's minds." Goods are not gauged according to their cost in production. The prospects of a good harvest, long before it has grown, much less reaped, creates in men's minds a feeling of hopefulness, which leads to increased demands for goods, which sets in motion a demand for labour, which calls for legitimate creation of credit by banks being based on the production of future goods—the real and legitimate money for the purchase of present goods and labour.

Efficiency of Labour.

Another of the strong factors making for a revival of business is the improved efficiency of labour. When there is much unemployment the men fortunate enough to have work do their very best in order

to retain their positions. When hands are shortened, it is the least efficient that are put off. Those that are kept are not only the best workers, but they work their best. With what result? Why, with the beneficent result that the ratio between labour costs and the values of the products of labour improve—far more so than any mere fall in wages could bring about. This improvement in the money value of the products of labour as compared to its cost adds to the profit of the employer of labour, gives him vision and hopefulness for the future, and encourages him to employ more labour to obtain greater monetary gain—the real object of all business in a monetary economy as ours is.

The Benefits of Economy.

Again, bad times engender economy in management and expenditure. People cannot afford to be extravagant when profits are difficult to make. Their abstention from buying causes prices to fall until they come within the range of a larger circle of poorer people; which increases consumption at a lower range of prices. Such increased consumption in turn calls for increased production—with its beneficial results, increased demand for labour and for credit, thus causing the creation and circulation of more money based upon the sure and certain expectation of future goods, the production and consumption of which cancels the credit money created in the productive process—the legitimate and natural circulator of the goods—leaving the financial condition of the community in a healthy condition—the very antithesis of money created by the Government printing press.

Success in Industrial Management.

The following rules were given as essentials to success in the present management of industry at a conference in New York recently:—

1. Nothing should be done with wages that can be done with power and mechanical equipment. Wages show no signs of coming down, but there is a trend toward lower power rates.
2. It is cheaper to prevent waste than to retrieve it. Unavoidable waste should be turned into profitable by-products.
3. The high cost of the unexpected can be avoided by adequate planning.
4. Science is the cheapest and most energetic servant of industry. It is being used only to a fraction of its possibilities.
5. With competition steadily increasing and profit ratios declining, small savings are increasing in importance.
6. Keener competition is placing a greater premium than ever on human intelligence and training.
7. Many problems which heretofore have not been overcome by individual effort are yielding to group co-operation.
8. Moderation in business, with moderate but steady yield, is proving preferable to hectic spurts of activity with their resultant large gains and large losses.

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.

For English prices, see The Month's Cablegrams on page 243

Sydney, July 3, 1928.

Much improved conditions were noted for June against the corresponding month of last year, and although financial stringency is reported in some quarters there has been a very marked activity in others. The general outlook is promising, and the rains which have spread over a large area of the State have given a great impetus to trade. Throughout the country buying is steady and well spread, and it furnishes convincing evidence of the brighter tone prevailing. Necessarily, in some directions, stock-taking and end of the year balance interfered with the general transaction of business. Prices in almost all goods remain unchanged, and wholesale distributors report a healthy condition of affairs. Jute fabrics had attention, and bran-bags showed a firmer price, but woolpacks eased gradually, and cornsacks were not altered. Trading in oils was fairly steady, but prices were not altered and stocks are sufficient to cover requirements. Turpentine had much attention and firmed in price for interhouse trade. Overseas advices quote higher prices and stocks are lower on spot than was expected. Arrivals for July (new season's) are reported to be light, and this may cover only immediate calls. Resin showed a good demand, and apart from spot stocks, parcels were booked ex ships en route. Distribution was general. Corrugated and plain iron sold in distribution at current rates, and several firms report good business. Tinplates for indent are booked well ahead, and indent prices are firm. Stocks are not heavy on spot and prices are firm for prompt delivery. Materials for builders and paint manufacturers have gone into distribution well, and an active month is anticipated. Suburban business is very satisfactory and cash trading is reported as well spread, and generally a healthy condition prevails.

Christchurch, June 20, 1928.

So far, the weather has been extremely wet, and prevented much business being done. Just now, in the dead of winter, things are very slack, and there is, unfortunately, a great deal of unemployment through firms reorganising their staffs with a view to effecting economies. Hardware is no exception. The City Council is endeavouring to meet the position as far as its funds will permit, and is providing work in connection with the proposed river boulevard and street widening work. The Canterbury Progress League is arranging a conference to discuss unemployment throughout the province. Professor Tocker, of Canterbury College, predicts a business "boom" after the winter. He thinks there has been too much pessimism during the past two years, and offers reasons for his belief that the future is bright. There are evident signs of continued improvement in the building trade, although this will be more evident when the winter is over. A more optimistic feeling prevails among hardware dealers, and local architects are pleased with future prospects. The general counter trade in the various hardware stores is keeping up remarkably well considering the time of year, and the fact that the very wet weather is keeping people from doing all but urgent shopping. There is very little change in the trend of market prices. Ingot tin has dropped again, this time to 2/6 per lb. White lead of best quality has been reduced to 56/- per cwt., and genuine turpentine to 5/6 in case lots, a drop of 6d. per gallon.

Dunedin, June 16, 1928.

There is little to complain about regarding business of late. City traders have been enjoying a rather good time, especially during the celebration of the Otago Agricultural and Pastoral Society's annual winter show, which this year covered a period of four days. The exhibits in the machinery section were particularly prominent, and engaged the attention of the many interested in that department. Motor vehicles were specially in evidence, more so than on any previous occasion. The attendance of country visitors must have tested the hotel accommodation of the city. Commencing from Monday next, the places of business in Dunedin are to be given over for the week to a display representing local industries, when, no doubt, there will be an enthusiastic response from the many institutions which represent the interests of such bodies. The local railway workshops are now nearly completed, and cover a large area of land in the south

NEW ZEALAND PRICES

	Duty.	Auckland.	C'church June. 20	Dunedin, June. 16	Wellington June. 21
IRON—					
Bar—		£	£	£	£
English ..	Free	21	22/	21/	22/
Shoeing ..	"	23	23/	21/	23/
Steel ..	"	15/10 to 21/-	20	22/	15/ to 22
Pig ...	"	8	10/6	10/6	9/- to 10/-
Plate ..	"	21 10/	24/	25/	22/
Hoop ...	"	24/ 35/	25/6, 37/6	30/	25/ and 85/
Sheet, Blk.	"				
to 20-g. ...	"	23 10/ 24 10/	23/6	24/	23/6
22 & 24 g.	"	25 10/	26/6	26/	25/6
Galv. Cor.—	2/-				
First ...	"	28	30/ Builders	29/	28/
Second ...	"	27	27/- "	27/6	27/
Local ...	"	28			
Do., Plain	Free				
24 & 26 g.	"	29/10, 30/15	31/ 33/	33, 35, 37	28
Pipe—Galv.	Free	50%	47½% off	42½	45% off
Black	"	60%	50% off	50% off	50% off
Wire—					
Galvd. ...	"	15/6, 18/-	16/	15/	17/ to 18/
Black ...	"	16/-	16/	15/	
Barbed ...	"	21, 23 10/	21/-	21/	21/ to 22/
Nails	2/4-c	20/6	20/	22 to 23	22
N Z.		20/6			22
Lead—Pig	Free	30/-	33/-	21/	32
" Sheet	"	34, 10	38/-	24/	39
" Shot	10/.	75/	75/	80/	75/
Tin—Ingot	Free	2/7	2/6	2/10	2/10
Plates	"	32/6, 48/6	40/	40/	37/6
Zinc—Sheet	"	7½d. lb.	9d. lb.	8½d.	7½d
Quicksilver	"		6/6lb		
Cement—					
Imported	1/-cwt.		25/- cask		
Local bag	"	5/8	7/-	6/	5/11
Slates ..	Free				
P. of Paris ..	"	26/-	30/-	28/-	27/
White Lead	6/-cwt.				
Best ...	"	54/	56/	56 -	58/
Second ...	"	53/			57
Blst. Powder	Free	1/8	2/-	1/7	1/8
Rope—	20%				
Manila, Star	"	111/	111/	111/	111/
O. ...	"	107/	107/	107/	107/
Flax, N.Z. ...	"	81/ 88/	88/	88/	88/
Co nsacks ...	Free				
44-in. ...	"			12/10½	12/6
46-in. ...	"		12/9	12/9½	12/9
48-in. ...	"	14/6	13/8	13/4	13/-
Woolpacks ...					
Full ...	Free	5/3	5/3	4/6	5/3
Oils—					
Lins'd, raw	6d.	5/-	N.Z.5/- Eng 5/3	5/2	5/3
Castor ...	Free	5/-	5/6	5/5	5/6
Colza ...	"	7/9	8/	8/-	7/1
Kerosene	"	13/9	14/9	14/6	13 9
Turpentine	"	6/6	5 6	6/6	6/6

part of the city. They will employ something like a thousand workers. Another large building in course of construction is the Empire Theatre, which will be one of the finest of its kind in the Dominion, capable of accommodating about 2000 persons. But few alterations of prices have to be recorded. Locally manufactured nails are quoted at 21/-. Sheet lead is down to 34/-, and tin in ingots to 2/10. Cornsacks are slightly higher at 12/10½ for 44 in., 12/9½ for 46 in., and 13/4 for 48 in.

Wellington, June 21, 1928.

New Zealand is fairly over the period of depression, and the balance of trade for the year ended April 30 showed an excess of exports over imports of £12,053,259, as compared with an excess of imports of £1,550,035 for the preceding year. The effect of this will be to brighten up trade all round, and though we are now in the middle of winter trade is fairly satisfactory, but a decided revival is anticipated in the spring. Imports for the first four months of the year showed a slight decline of £498,099, or 3½ per cent., and the decrease in metal goods and machinery was £303,673, chiefly in electrical machinery, galvanised iron and bar iron. Building is still active here, mostly in large office and warehouse structures. Stocks of metal goods generally are very fair, but a little light. Prices are keeping very steady, the only change being a reduction of £1 in plate and sheet iron and steel. Country trade is a little quiet at this time of the year, but town trade is satisfactory. Galvanised iron, nails and other builders' lines are selling steadily at last rates. Fencing wire is quiet now. There is a fair turnover in bar and plate iron, and stocks are moderate. Lead and tin are a little quiet, with fair supplies held. Oils are in fairly good supply and keeping steady.

Brisbane, July 2, 1928.

As usual June has proved a quiet month in all classes of hardware. Most people are taking stock, with the result that orders are reduced to a minimum. A general feeling of optimism prevails, however, and it is fully expected that business will show a big improvement this month. Heavy hardware has been fair and stocks are in full supply with prices generally unchanged. General ironmongery conditions at the moment are not too satisfactory; keen competition has forced the market, and many lines are now being sold at prices demanded by the merchants. Station supplies are now receiving a much stronger demand in anticipation of the approaching shearing and other station activities. Wool packs have been moving freely with prices about the same as at last report and stocks coming forward in good quantities. Fencing wires have had an increase of inquiries, and sales generally have shown a good improvement. Prices of Australian manufacture have firmed a little, and spot stocks are plentiful. Barbed wire has also shown an improvement with prices up a shade, and stocks in full supply. Wire-netting has been slow with prices unchanged, and stocks well up to demand. Builders supplies have been quiet all round, and stocks are heavy. Nails have dropped, but otherwise prices are unchanged. Cement has been in strong demand, and some fairly big orders have been placed. Stocks, however, are well up to requirements. Prices are firm. Paints and oils have been on the slow side and prices are up a little with heavy stocks. Galvanised iron has been quiet, but improvement is expected with the new financial year. Prices are unchanged. Tools of all kinds are heavily stocked, and holders are inclined to cut prices in order to reduce. Sanitary materials and accessories have been in strong demand owing to the extension of the sewerage systems, indeed this branch of the plumbing trade

has been kept very active for the best part of the year. Prices are steady and stocks plentiful. Crockery and glassware are having a quiet time. Stocks are too heavy, and some keen competition may be expected in order to reduce quantities. Prices generally are unchanged. Enamelled ware and tinned ironware are also in full supply with prices steady and demand on the quiet side at unaltered prices. It is understood that this line is now being made in Brisbane, and the quality compares very favourably with that of the imported article.

Adelaide, July 1, 1928.

Business during the period under review has been particularly dull. Always a month of marked inactivity owing to stocktaking, retailers annual sales, etc., little or no business of importance was noted during the period. Buying was practically suspended, and little selling activity was displayed. No alterations in price were noted. Having the worst month of the year behind them, and the worst so far experienced during the period of depression, traders now confidently anticipate a rapid improvement. With the commencement of the new financial year Government works which have been planned but held in abeyance are to be pushed on without delay. The State Bank will now have funds at its disposal to finance the erection of the houses which have been held up on account of financial stringency of the Government. This will be a relief to the sorely stricken building industry. Several big additions are planned in the way of city buildings, and bulk stores which will also be of great help to this branch of the trade. All of which, coupled with the prospects of a good harvest—a record acreage has been sown, and such splendid weather conditions have so far prevailed that some experts are already hinting at a fifty-million-bushel harvest—point to a very much better times ahead.

Melbourne, July 3, 1928.

Hardware business in Melbourne continues quiet. Trade has not been improved by the stocktaking operations which are everywhere in progress. Some very pessimistic opinions as to the future are expressed by executives of leading metal houses, but one hesitates to endorse the worst prophecies. Conditions are changing rapidly, and increasing avenues of distribution render competition keener, in the iron world as well as in other branches of industry. The signs are easy to read. This week comes word of an important amalgamation of two Melbourne merchant houses caused, doubtless, by the necessity for economy in overhead expenses. Dealings in heavy metals were confined to immediate requirements. Some little quantity of mild steel in bars changed hands during June, principally for use in cement structures. One parcel of 15 tons round mild, ½ in., sold at £13/15/-; another of 5 tons, ¾ in., £14/5/-; and 10 tons ¾ in., £14/15/-. Black steel sheets 6 x 36 1 10g., in 5 ton lots, brought £17/10/-. Fencing materials were not in demand. Sales observed included three miles of wire netting, 42 x 1½ x 17 at £41. For ten ton lines of galvanised wire the ruling prices were, of actual sales: No. 8 £16, No. 9 £16/10/- both subject to 2½%. Barbed wire brought in one or two cases £21/10/- for No. 12, and £22/10/- for No. 13. Handlings were very few. Building materials moved fairly well, but principally for public works. The amount of house building in Melbourne at the moment is practically nil. A number of dwellings have recently been thrown on the market through the transference of Federal officials to Canberra. This has assisted to bring building operations to a minimum. A parcel of English G. C. iron, 25 tons, sold at £24/10/- less 2½%. The price of cement is unchanged. Several local brands are available, but moderate shipments

of British make continue to land. One parcel of 250 casks, K. B. & S. fetched 20/-. Plaster is similarly dull, the only sale noticed being one of 25 casks F.F.F. in K.W. brand, which changed hands at 35/-. Wire nails, are listed at £17 basis, a five ton lot bringing £16/10/- in assorted sizes. A small purchase of American turpentine indicates the ruling price of this commodity, 25 cases selling at 4/6 per gallon. Other lines in the paint and oil department were not much inquired for. Red lead, English makes, was quoted at £50, and white lead at £52 to £62, for British and from £57 to £60 for Australian. Other prices which may be of interest were "Victor" rabbit traps, of which 100 dozen were bought at 20/-; ingot tin, which in dealings of one and two tons found buyers at £226 early in June and £220 towards the end of the month; and I C coke tin plates, the latter being turned over here and there in fifty box lots at 46/-.

The Month's Cablegrams

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date	Copper Electrolytic Per Ton		Tin Standard Per Ton		Silver Standard Per Ounce	
	1927	1928	1927	1928	1927	1928
May 30	£ 60-60½	£ 68½-69	£ s. d. 291 11 3	£ s. d. 226 18 9	d. 26½	d. 27½
June 4	60-60½	68½-69½	292 16 3	223 18 9	26½	27½
" 8	60½-60¾	68½-69½	295 13 3	223 16 3	26½	27½
" 15	60-60½	69-69½	293 2 6	221 2 6	26½	27½
" 22	59½-60	68½-69	298 12 6	217 17 6	26½	27½
" 29	59½-60	68½-69	297 16 3	213 17 6	26½	27½
July 4	59½-60	68½-69	295 5 0	206 13 9	26	27½

The stocks of tin in the United Kingdom at the end of June were 16,326 tons, the deliveries for the month 2,736 tons, the quantity on spot 1,567 tons, and the quantity afloat 2,048 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—June 4, £21 11/3; June 8, £21 6/3; June 15, £20 18/9; June 22, £20 10/-; June 29, £20 17/6; July 4, £20 11/3.

For the month of May the imports of lead into Great Britain were 21,069 tons, including 8702 tons from Australia. The exports for the month were 4589 tons.

Spelter.—The spot quotations for spelter, as cabled from London, have run as follows:—June 4, £25 17/6; June 8, £25 16/3; June 15, £25 15/-; June 22, £25 12/6; June 29, £25 11/3; July 4, £25 8/9.

Tallow.—Following are the statistics for May and particulars of the latest auction sales:—

June	Casks	Date	Casks Offered	Casks Sold	Mutton Med., per cwt.	Beef Med., per cwt.
Imports	945	June 6	Nil			
Deliveries	1043	" 13	1213	273	38/	38/
Stock	1319	" 20	Nil			
		" 27	522	433	38/	38/
		July 4	443	338	38/6	38/6

Notes From Canterbury, N.Z.

The New Zealand Railway Board, which was set up on the recommendation of the Fay-Raven Commission, which visited the Dominion some time ago, ceased to function recently, and its responsibilities have been taken over by Mr. H. H. Sterling, who has been appointed general manager. One of the first evident results of a new hand at the helm is indicated by the establishment of the first south-bound night express from Christchurch to Invercargill, which is going to be of the very greatest value to business men. The first train to depart carried 150 passengers.

For some time past the Railway Department have used a battery car, commonly known as a "Jumbo," for inspecting and overhauling the overhead electrical gear on the Christchurch-Greymouth line, but this was found to be too expensive for the purpose, and it was decided to supercede it with a petrol-driven car. The new car is now at Otara being fitted up, and is expected to show a considerable financial saving on the previous mode of inspection.

A system of train control between Christchurch and Oamaru, similar to that in operation in different parts of Australia, was inaugurated in Canterbury during the last month, and worked satisfactorily. The new system is operated by telephone under the supervision of the train control office in Christchurch.

All Canterbury is enthusiastic over the prospect of Captain Kingsford-Smith and party coming by aeroplane to New Zealand, and hope that the invitation to come to the Wigram Aerodrome will be accepted, as it is the only aerodrome efficiently equipped in the Dominion.

In the opinion of the Waimakariri River Trust, the city of Christchurch is menaced by the prospect of the river Waimakariri overrunning its banks in time of an exceptional flood and doing a lot of damage to the city and suburbs. The problem of controlling this river was submitted to Sir Alexander Gibb, an eminent British engineer, and his report has now been received. This approves of parts of the scheme suggested by the board's engineer, Mr. Hay, but considers some very material alterations necessary.

The sixtieth anniversary of the proclamation of Christchurch as a borough was celebrated with much enthusiasm, the city being brilliantly illuminated, monster processions held, with civic receptions to distinguished visitors, and a united civic service at which the mayor of the city (the Rev. J. K. Archer) preached, he being the first Baptist minister to preach in the Christchurch Anglican Cathedral, and the first New Zealand mayor to preach a municipal sermon.

The donor of the new art gallery, Mr. R. E. McDougall, performed the ceremony of laying the foundation stone in the presence of a large crowd during the city's jubilee celebrations, and the mayor said he believed the new gallery would be erected within two years.

Victorian Hardware Club.

A one-night snooker tournament was held at the club on Tuesday evening, July 3.

Entries are now being received for the annual billiard tournament, which commences on July 14. It is expected that over sixty players will take part, and the success of the meeting is assured.

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney July 3	Melbourne July 3	Adelaide July 1	Brisbane July 2		Duty	Sydney July 3	Melbourne July 3	Adelaide July 1	Brisbane July 2
Pig Iron ...	20/ 40/	£	£	£	£	Zinc—	£	£	£	£	£
British ...	...	...	7 5/	7 10/	...	Sheet 9 to 18g	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.
Swedish ...	...	...	...	...	...	(7 x 3 & 8 x 3)	...	...	...	...	5/6
Lithgow ...	...	7 10/	7 5/	...	...	Perforated	35%, 45%	4/9	7	...	...
Newcastle ...	...	7 10/	7 5/	7 10/	...	Spelter	10%, 20%	32	...	54/	...
Bar and Rod	44/ 120/	23 basis	English 21	21	22.10 basis	" Elec.	25%, 40%	30.1.10/ to 37	41 to 42	...	40/
Australian ...	...	...	18/6	17 10/	...	" Brazing	...	1/9	1/5	...	1/9
Mild Steel ...	44/ 120/	19 10/basis	19/ basis	19 10	18	Boils & Nuts	...	...	...	...	...
Bar ...	...	19 10/	18	20	19	Cuphead	35%, 50%	75/ 59/	63/ 47/ 41/	41/- 38/	26/3 to 73/
Angles ...	...	21	18	21	20	" "	...	76/ 57/	61/ 46/ 39/	41/- 36/	...
Tees ...	...	...	...	...	...	" "	...	70/ 54/	56/ 43/ 37/	40/- 34/	...
Hoops ...	F., 10%	20 basis	19 basis	19	21/ basis	" "	...	65/ 49/	52/ 39/ 35/	37/- 33/	...
Black ...	...	29/9 basis	32	33/	32 10/	" 6 1/2 to 9"	...	61/ 47/	49/ 38/ 34/	36/- 31/	...
Galv. ...	...	25	24 10/	25	25 5/	" 9 1/2 to 12"	...	59/ 45/	47/ 36/ 32/	33/- 30/	...
Galv. Corr. 24g.	20/ 60/	26 10/	26	26 10/	28 15/	Tanks, 400-gal.	Free	6 10/	4 10/	5 10 0	5
Orb 25 g	...	...	...	...	28 15/	200-gal.	...	3 10/	2 10/	3 10 0	3 10 0
Phoenix Cr.	...	26	25	27 5/	28 15/	Tubing—	F., 10%	55 off list	55 off	55 off	List 45% off
Galv. Plain 24g.	20/ 60/	30/	26 5/	28	27	Black up to 3"	...	50	55 off	46 off	5% on
Queen's Hd.	...	26 5/	25 15/	27 15/	26 10/	" 3 1/2 up to 3"	...	40	55 off	46 off	40% off
Phoenix Cr.	...	...	...	...	40	Galv. up to 3"	...	...	55 off	46 off	Less 5% off
Fleur-de-lis	...	...	...	...	...	" 3 1/2 up to 3"	...	...	55 off	46 off	5% on
Other	...	...	...	...	...	Steam up to 3"	...	...	55 off	46 off	25% off
Sheet	F., 125/	26 basis	25 basis	25 15/	26	Wr't boil.	...	...	55 off	46 off	List
Black	...	B26, G34 5'	26 10/	...	19	Explosives	F., 5%	1/-	10d.	1/-	5/
Baldwins	...	...	...	...	...	Hall's C.C.	10%	10d.	10d.	11 1/2	1/1
Plate	F., 120/	17/- basis	15 basis	15	15 10/	Curtis's	...	10d.	10d.	11 1/2	1/1
Steel	...	19 6/	21	19	20/-	Chilworth's	...	10d.	10d.	11 1/2	1/1
Girder	...	...	...	...	...	Sporting	15%, 25%	3/6, 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/
Fencing Wire	F., 120/	18 5/	18 5/	...	...	Diam. S'less	...	10/	8/ to 8/6	8/3 to 8/6	5/
American 8	...	19 5/	19 5/	...	...	Amberlite	...	8/6	7/ to 7/6	6/9 to 7/6	75/
Austra'n 8 Bl.	...	14 2/6	14	15 10/	14 13/	Blast'g Gel.	F. 5%	72/6	74/6	74/6	78/6
Galv. 10	...	15 18/	16 5/	16	15/4	Gel. Dyna.	...	65/	66/	66/	71/-
Galv. 12	...	16 9/	17	16/8	16/8	Gelignite	...	56/ to 60/	56/ to 59/3	54/6 to 58/6	62/ to 66/
Barbed Wire.	68/ 180/	24	...	...	...	Dynamite	...	41/ to 51	55 to 60/	60/ to 85/6	58/ to 102/
Amern. 12-g.	...	25 10/	22 0/	24	12—25 6/6	Detonators	15%, 25%	65/	61	71/	90/
Austn. 12-g.	...	24 10/	22 10/	25	12—26 8/	Shot—Chilled	...	63/6	61	68/	1/4
13-g.	...	26	23 10/	26 10/	14—26 18/6	Australian	...	61/	56	68/	1/4
14-g.	...	...	...	...	...	Cyanide Pot.	Free	1/4	1/6	5/8	8/6
Wire Netting	F., 200/	£48/15/0	36 15/	48/15/	34/ 5/3	Quicksilver	Free	7/6	5/	5/8	18/6
42 x 1 1/2 x 17	per. ton	£39/ 5/3	29	38	41/16/	Sash Weights	35%, 45%	15/	18/	16/6	60
42 x 1 1/2 x 18	...	£41/16/0	49 15/	45	38/ 2/	Sheep Shears	F., 10%	62/6	65/	60/	60
42 x 1 1/2 x 17	...	£33/ 2/0	41 10/	38 10/	33/10/	Cement—Impt'd	20%, 30%	21/ cask	21/-	21/-	21/ cask
42 x 1 1/2 x 18	...	£41/16/0	34	...	35/13/	Aust. (bags)	...	18/	7/-	6/6 bag	6/6 bag
36 x 1 1/2 x 17	...	£33/10/6	35	...	28/ 9/3	Plaster, Imp.	1/6, 2/c	37/6 K.W.	35/	47/6	50/ cask
36 x 1 1/2 x 18	...	£35/13/0	28	28	20 15/	" Aust.	...	Pixie 35/-	8/	9/3	18/ bag
36 x 1 1/2 x 17	...	£29/10/0	20	20 15/	...	Slate (20 x 10)	30%, 40%	...	...	...	...
36 x 1 1/2 x 18	...	...	...	...	...	White Lead—	8/ 10/ or	63/6	62/	64/-	60/
Nails—	...	...	...	...	...	Imported	25%, 30%	57/	60/	60/	56/
Horseshoe ...	12/ 15/	Less 10%	to 1/1b.	1/ less 10%	List Price	Australian	...	...	70 to 100	...	72/ to 80/
Wire ...	5/6, 8/	28/6 basis	18/ to 20/	24/6 to 36/	26/- basis	Zinc White	20%, 30%	...	...	...	Colonial 56/
Roofing—	5/6, 8/	65/- cwt	65/cwt., 9/6	9/-	11/	Linseed (raw)	9d., 1/	R5/3	5/6	Drs., 5/9	5/3
Evenden	...	...	...	...	38/	Imported	...	C4/8 D5/8	C., 4/	Drs., 4/9	4/7
Lead-head	...	...	...	...	...	Australian	...	...	...	...	...
Block Tin ...	Free	£215/ 0	220	238/	8/	Colza	6d., 8d.	...	6/-	...	...
Tin Plates,	...	...	...	...	...	Burning	...	...	...	...	...
28 x 20—	F., 10%	112's 60/-	62/6	112's 52/6	27/	Castor	9d., 1/	C 6/6	6/3	6/9	6/10
I.C. Coke ...	28 x 20	35/-	70/	...	42.	Castor cases	2s., 2/6	...	8/	...	10/
I.X. Coke ...	56s	...	...	...	...	Cotton seed	6d., 8d.	...	8/6 to 10/	...	...
Pig Lead ...	Free	25/6	25	29	37/10	Kero.—C.O.R.	Free	13/	13/6 to 14/6	13/	12/6
Sheet Lead ...	10%, 20%	40/	50	43/6	49/	Laurel	...	13/	13/6 to 14/6	13/6	12/6
Dampcourse	...	4 1/2 6/6	48	...	...	Light of Age	...	13/	13/6 to 14/6	13/	12/6
2 lb.	...	4 1/2 9 9	47	...	...	Pennant	...	5/-	4/9	4/10	4/3
3 lb.	...	...	...	...	...	Turpentine	F.,	3/	18/ per case	2/8	2/6
Lead Pipe—	10%, 20%	45/	47 10/	46 5/	58/6	Substitutes	1d., 1d.	3/6	2/6	3/4	3/-
1 to 2 in. coils	...	47/	52	48 15/	60/	Shellac	6d., 9d.	8/-	8/6	9 10/	£12 ton lots
Lengths to 5'	...	50/	51	48 10/	57/	English	...	6/3	4/9	5/	29/6
Compo. 1/2" & up	...	...	...	...	...	Colonial	...	32/6	32/-	28/	29/6
Copper	...	...	...	...	...	Resin, C grade	Free	32/6	32/-	28/	29/6
Ingots ...	25%, 40%	1/5 1/2	70	78/	10d.	Carbide—	80/ 150/	32/6	27/ 6	29 5/	29 7/6
Sheet ...	...	1/3	1/7	1/8	1/8	" I X L "	...	34/-	32/10	33 10/	33
Brass	...	...	...	...	...	Scandinavian	...	...	...	...	...
Sheet ...	25%, 40%	1/3	1/2 to 1/6	1/6	1/6	Japanese	...	...	...	...	...
						Bluestone—	100/ 200/	...	...	...	...
						Macclesfield	...	37/6	36/-	37/6	40/
						Australian	...	36(1 cwt c/s)	...	...	...
						Japanese	...	...	1/5	60/-	...
						Stock Tar, 42 g.	25%, 35%	Free	...	...	...
						Woollpacks—	...	4/4 1/2	4/6	4/9	4/9
						42 x 1 1/2	...	...	...	...	...
						54 x 1 1/2	...	...	...	...	...
						Cornacks—	Free	10/7	11/	11/6	11/4 1/2
						2 1/2 lbs. (Oats)	...	8/11	8/6	10/-	10/7
						2 1/2 lbs	...	...	...	...	...
						Branbags	Free	...	...	...	...

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

William G. Jack has become the owner of Wylie's (Thomas Wylie), crockery and hardware merchants, Hamilton.

Brooks & Radburn (John E. Radburn and Leslie Brooks), general storekeepers, Turramurra, announce that L. Brooks has retired from the firm.

A. J. Van Dugteren & Sons, manufacturers' representatives, have removed from Australia House, Carrington-street, to roomier showrooms and offices at Country Traders' House, 116-18 Clarence-street, Sydney.

Firms Registered.

Major Brown, ironmonger, 13 Havelock-avenue, Coogee; proprietor: Oliver F. Brown.

Janaway & Ritchard, glass and hardware salesmen, 3 Uther-street, Sydney; proprietor: Bernard T. Ritchard.

Regent Tool Stores, ironmongers, tool and hardware dealers, 509 George-street, Sydney; proprietor: Benjamin Polonsky.

Fitzpatrick & Pollard, hardware dealers and electrical suppliers, Langston-place, Epping; proprietors: Leslie Fitzpatrick and Walter R. Pollard.

Handy Tools & Hardware Co., hardware dealers, 40 Pitt-street, Sydney; proprietors: Mrs. Elizabeth Bradley, William K. Bradley and George Bradley.

Company News.

Hoskins Iron & Steel Co. Ltd. announce that the company is being wound up, with a view to sell and transfer the assets and undertaking to a new company, to be called Australian Iron & Steel Ltd. Richard J. Burns, Kembla Building, Margaret-street, Sydney, is the liquidator.

Waters Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To carry on the business of wholesale and retail grocers, hardware merchants, etc. Subscribers: W. G. Waters, S. E. Yarroll, W. G. Owens, E. Waters, A. Waters, B. Waters and W. Halberg. Reg. office: Sydney.

Malleys Ltd. made a net profit of £26,123 for the year to March 31 last, being about the same as the year before. On both preference and ordinary shares a 9 per cent. dividend has been declared, absorbing £16,298, while sums totalling £9823 have been added to reserves. The paid-up capital stands at £196,473.

Coote & Jorgensen Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To carry on the business of iron founders, mechanical engineers, etc. Subscribers: Ernest R. Coote, Oskar H. Jorgensen, Helender Coote, Eva Jorgensen, Walter Linton, E. K. N. Bennett and J. Fenton. Reg. office: Sydney.

Acetylene Supplies Ltd. have been registered with a capital of £25,000 in £1 shares. Objects: To manufacture acetylene generators, lamps and all other acetylene apparatus, etc. Subscribers: Glen Richards, Percy B. Colquhoun, Robert R. King, Bryce C. Walmsley, Eric C. M. Cohen, Donald E. Rollason, and Alan D. Killop. Reg. office: Sydney.

Electric Steel Castings Ltd. have been registered with a capital of £15,000 in £1 shares. Objects: To enter into a certain agreement and to carry on the

businesses of engineers, founders, etc. Subscribers: William J. Lumsdaine, Erson J. Shevill, Edwin Webster, William J. Baldock, Robert A. H. Godby, Jack H. Prior, and Norman C. Oakes. Reg. office: Sydney.

Noyes Bros. (Sydney) Ltd. made a net profit of £17,879 for the year ended April 30 last, as compared with £15,668 for the previous year. Dividends of 9 per cent. on preference and 15 per cent. on ordinary shares account for £12,889, while sums aggregating £4225 are added to reserves, and an amount of £1286 is carried forward. The paid-up capital of the company is £98,543.

Dome Water-Heater Mfg. Co. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire by agreement the business of metal sheet workers and bath-heater manufacturers carried on in Sydney under the style of L. G. Jackson & Co. Subscribers: Joseph Jackson, John H. Ehrich, Milton J. Stain, Louis G. Jackson, Charles O. Brice and George W. Cosgrove. Reg. office: Sydney.

Australian Heating Co. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire benefits, rights and privileges arising out of a certain agreement in connection with the radiators known as the Hammel Gas Steam Radiators, and to carry on the business of heating engineers, etc. Subscribers: Murray E. Angus, Archer B. Sandes, Lionel H. Richards, Arnold V. Meldrum, Buchanan Black, Edmund R. Manning, and John F. Mant. Reg. office: Sydney.

Australian Iron & Steel Ltd. have been registered with a capital of £5,000,000 in £1 shares. Objects: To acquire by agreements the undertaking and all or any of the assets and liabilities of Hoskins' Iron & Steel Co. Ltd., the Australian business and assets (except those connected with the Sydney Harbour Bridge) of Dorman, Long & Co. Ltd., and certain plant and assets belonging to Baldwin's Ltd., etc. Subscribers: Cecil H. Hoskins, Lawrence Ennis, Emily Hoskins, Frank N. Yarwood, Harry B. Howard-Smith, Arthur S. Hoskins and Arnold S. Taylor. Reg. office: Sydney.

New Zealand

Company News.

Wynyard Hardware Co. Ltd. have been registered with a capital of £500 in £1 shares. Objects: Ironmongers and incidental. Subscribers: R. C. Russell, A. E. Russell and F. W. Thorn.

N.Z. Steel Pipe & Tank Co. Ltd. have been registered with a capital of £2500 in £1 shares. Objects: Deal in steel pipes, tanks and incidental. Subscribers: G. Cain, E. M. Cain and T. J. Barclay.

Vulcan Steel Construction Co. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: Ironfounders, steel construction engineers, etc., and incidental. Subscribers: Jas. Fletcher, John Fletcher, E. H. Rhodes and A. Fletcher.

Walter Scott & Co. Ltd. have been registered with a capital of £4000 in £1 shares. Objects: To acquire as a going concern the business now carried on at Greymouth under the style of Walter Scott & Co., and to carry on business of ironmongers and hardware merchants, and incidental. Subscribers: W. G. Scott and C. M. Scott. Office: Mackay-street, Greymouth.

Queensland

L. Lee & Son, general storekeepers, Tambo, have been registered under the Firms Act; proprietors: Louisa J. Lee and Walter Lee.

Stewart Bros. Store, general storekeepers, Kin Kin, have been registered under the Firms Act; proprietors: Alfred B. Stewart, John H. Stewart and Leslie A. Stewart.

South Australia

The British Imperial Oil Co. Ltd. announce that the name of the company has been changed to The Shell Co. of Australia Ltd.

Globe Timber Mills Co., timber and iron merchants, Flinders-street, Adelaide, and New Dock, Port Adelaide, announce that Simon Harvey has retired from the firm.

Firms Registered.

W. Symons, grocer and ironmonger, Graves-street, Kadina; proprietors: Horace William Symons and Harry Rupert Symons.

Relecto Mfg. Co., manufacturers of electrical and hardware goods, Paringa Building, Hindley-street, Adelaide; proprietors: Henry Montague Walker and Daisy Jeanette Walker.

Victoria

Firms Registered.

W. F. Sugden, crystal and chinaware dealer, Capitol House, Swanston-street, Melbourne; proprietor: William Frederick Sugden.

M. A. Burns & Son, grocers, hardware dealers and confectioners, 187 Napier-street, Essendon; proprietors: Michael Alfred Burns and John Robert Burns.

Universal Cooker Co., manufacturers and marketers of culinary utensils, 245 Elizabeth-street, Melbourne; proprietors: John Henry Moon and Martin Frith Chester.

C. A. Howard & Sons, grocers, ironmongers and general merchants, Mountjoy-parade, Lorne; proprietors: Charles Adderley Howard, Percy Valentine Howard, and Alfred John Howard.

Company News.

Joseph Ellis & Sons Pty. Ltd., metal workers, etc., have been registered with a capital of £20,000 in £1 shares. Subscribers: Joseph Aubrey Ellis, Claude Ivan Turnley, Alfred Simpson and Andrew Alfred Hicks.

B. K. Morton Pty. Ltd., manufacturers' agents and merchants, etc., have been registered with a capital of £5000 in £1 shares. Subscribers: John Ormston Thomson, Keith Ormston Thomson, and Alan Stewart Thomson. Reg. office: 150 Queen-street, Melbourne.

Stenniken Galvanising Works Pty. Ltd. have been registered with a capital of £5000 in £1 shares. Objects: To acquire the business of G. Mehegan & Co. Subscribers: John Benjamin Stenniken, Norman McLeod Hammond, and Herbert Jas. Raven. Reg. office: Hanna-street, South Melbourne.

Western Australia

Power Paint Ltd. have been registered with a capital of £5000 in £1 shares. Reg. office: Ward-street, Perth.

Murray South has purchased the business of F. B. Horwood & Co., agents and hardware dealers, Darkan.

Firms Registered.

Moir & Phillips, general storekeepers, Mandurah; proprietors: Robert McAlister Moir and Albert Henry Phillips.

H. Rance & Son, plumbers and sheet metal workers, 480 Hay-street, Subiaco; proprietors: Herbert Henry Rance and James Herbert Rance.

Goodie & Chalker, general storekeepers and commission agents, Ballidu and Burakin; proprietors: Ernest Walter Chalker and Harry Goodie.

Travellers

In New South Wales.

Mr. Brock, of Ryall & Brock, 360 Post Office-place, Melbourne, will be in Sydney for a week from Monday, July 2. Samples of all lines will be on view at the showrooms of Mr. Arthur N. Johnson, 154 Castlereagh-street. The following week Mr. Brock will be at the Commercial Travellers' Club, Brisbane, returning for a further week in Sydney.

To and From Europe.

Mr. W. Tyzack, of W. Tyzack, Sons & Turner Ltd., Sheffield, is on a visit to Australia in the interests of his firm.

Mr. R. W. Dalton, senior British Trade Commissioner in Australia, returned to Sydney during the month from a visit to the United Kingdom.

Mr. H. P. Wrigley, manager in New Zealand for the Eagle & Globe Steel Co. Ltd., arrived in Sydney on June 16 by the R.M.S. "Mooltan" from a six months' holiday tour of England.

Agents and Agencies

Mr. B. W. Middleton, of Masonic Club Building, 164-70 Flinders-street, Melbourne, C.1, has been appointed agent for The Armstrong Manufacturing Co., of New York, makers of plumbers' tools, including dies, pipe wrenches and similar lines.

Boswell & Co., of 518-20 Kent-street, Sydney, have been appointed Australian representatives for Duro Aluminium Ltd., Hamilton, Ontario, Canada ("Economy" brand aluminium ware), and the McKinnon Industries Ltd., St. Catharines, Ontario, Canada (mechanics' and tradesmen's tools).

Mr. M. Scott-Young, of Civic Chambers, Cuba-street, Wellington, has been appointed New Zealand representative of George Butler & Co. Ltd., Sheffield. Since 1881 this firm have been known as manufacturers of cutlery and plate. Their Australian agent is Mr. Thomas C. Brown, of 181 Clarence-street, Sydney.

Richardson, Orr & Co. Ltd., with offices and showrooms at National Buildings, 250 Pitt-street, Sydney, have succeeded the firm of Richardson, Orr & Co., and taken over all the agencies previously held. Resident salesmen in all other States are carrying on at the old addresses, and will be directed by Mr. T. M. Orr as manager, and Mr. Arthur Brady, who has been appointed secretary of the company.

B. K. Morton & Co. Pty. Ltd., of Melbourne and elsewhere, announce an important change. The old company is in voluntary liquidation, and a new company under the same name has been registered to continue the business on its agency side only. Since the death of the founder, the late Mr. B. K. Morton, his widow has held a large part of the shares in the Australian company. Her interests will now be realised, and Mr. G. C. Delmar is also retiring. Mr. J. O. Thomson, who has been associated with the business since its establishment in 1887, is at the head of the new company, and his two sons are the other members. Mr. Keith O. Thomson will continue to manage the New Zealand branch of the business, while Mr. Alan S. Thomson will assist his father in Australia. Giving up the stock or storage part of the enterprise, the new company will confine themselves to the prosecution of the various agencies which have been taken over. This involves withdrawal from the premises so long occupied at 512 Little Collins-street, and accommodation has been secured at 150 Queen-street, Melbourne.

The Ills of Distribution—Their Cause and Cure

(By Mercator 53/228)

The entire universe is undergoing a constant process of change, and every branch of human activity is of necessity subject to the same law. This process is usually so gradual that we are scarcely conscious of it. We are continually adjusting ourselves physically and mentally to new conditions. It is only when we look backward, comparing what has been with what now is, that we realise the distance travelled.

But when changes are sudden, or revolutionary, they may be fraught with danger or even disaster. Coming unawares, the mind is unequal to the task of swift re-adjustment, and confusion follows. As with flood or earthquake when buildings are left in ruins, so in the affairs of commerce any sudden alteration from the even flow may find the broken remains of once powerful institutions scattered over the land.

Something of this nature appears to be even now taking place in our midst. Seldom has commerce seen such radical changes in the distribution of commodities in so short a period. Manufacturers are becoming distributors, wholesalers are turning into retailers, and retailers are joining together to act as their own wholesalers. We are too close to the event to realise just what is happening—or why. It is not easy to stand apart and analyse when we are in the heart of the turmoil.

The motorist whose engine fails on a crossing has no time to consider what part of his mechanism has broken down. His first task is to save his skin. The man of business is just now concerned with the keeping of his head above water. He has little time to search for the reasons of the flood that threatens to overwhelm him.

It may be possible, however, to form some idea of what is occurring. One obvious fact is that distributing agencies and efforts have enormously increased. Everyone has something to sell. Instead of the old familiar methods of marketing—factory to wholesaler, wholesaler to retailer, retailer to consumer—a dozen competitors have invaded the field of distribution. Manufacturers use any and every sales outlet they can find. New ways of selling are constantly invented or explored. Wholesale merchants find turnover harder to maintain, and become retailers. No sale, however small, is refused. The keenness of competition leads to doubtful practices—price cutting, and even more unscrupulous methods. Selling agents are everywhere. Canvassing from door to door is becoming rife, and so desperate are these attempts to push sales that threats and insults are said to be common.

What is the reason for this frantic campaign of selling—this determination to force commodities of all kinds upon an unwilling and already overloaded public? Why this choking of all the avenues of dis-

tribution? Surely there is only one answer to these questions. Over-production must be the root of the trouble.

Too many commodities are being produced. Pressed upon traders by intensive selling devices, they stay in the stores instead of being consumed. Finding his usual lines insufficient, the manufacturer invents new ones in the endeavour to keep his plant in operation. We have the position where new wants are continually being created. A thousand and one articles of luxury are “boosted” and broadcasted. Cash orders and time payments flourish. Credit sales are loosely handled, and risks taken which no sane man should tolerate. We are trading on an artificial basis.

A big manufacturer in America said recently that he would undertake that hundreds of lines on the market would be found to be selling at an actual loss instead of a profit, if, as he put it, the maker would “quit kidding himself, and examine his costs.”

If this summary of the situation is true, or partly true, the first duty of producers and suppliers is plain. They must be content to stick to real necessities, and abandon the artificial. Instead of hunting new accounts, let them be satisfied to hold the old ones. If out of fifty commodities only a dozen are really in demand, let them abandon the rest. What! And half of the plant remain idle? Certainly; and scrap it if necessary. What is the use of machinery if run at a loss?

The only way to obviate over-production problems is a full co-operation between manufacturer and distributor. Over-selling is known to be unsound. The retailer can only buy to the extent of his trade. If he can be persuaded to over-stock—and too often he can—he is drifting to a position where his account will be worthless, while the turnover of the supplier or manufacturer will only represent a fictitious prosperity. Unnecessary commodities must be ruthlessly jettisoned, and not until then will solid ground be reached.

The failure to follow the rapid transactions through which the trading community is passing is evident on every hand. Old-established houses are being stranded through the inability to adjust themselves to the changes indicated. In Australia, as in older countries, big stores are combining with huge aggregations of capital. Small concerns are being squeezed out. What is this but a combination to buy direct—to eliminate every avoidable expense? This brings closer contact with the buying public, and permits an intensive study of real, as distinguished from imaginary, needs.

Whether we like it or not, it seems as if we will be forced by economic pressure to reach this foundation before a stable structure can be planned.

Industrial Psychology

(Contributed by 41/227)

In London, at any rate, there has been a great increase in the number of people who believe that there is common sense and extra profit in those firms where the staff are engaged on the basis of each doing the job for which he or she is best suited.

The National Institute of Industrial Psychology are a very active association of the leading commercial and scientific men in London and elsewhere who make it their business to discover better ways of using human energy in connection with industry. They have just issued their annual report, and it makes most interesting reading for those who are connected with the employment of labour in factories and in other places where personal effort can be increased by improved methods and by a better understanding of the mental effect of better conditions.

During the past year, we learn, the fees received by the Institute for services in connection with their work on behalf of various commercial organisations, have increased by 37 per cent. over those of the previous year. That is to say, for 1926 the fees for investigations, etc., were £8,600, whereas, in 1927, they were £11,774. Considering the extraordinary conservatism of the average British commercial man and the pathetic obstinacy with which he clings to the idea that he knows his own business best and has nothing to learn from anyone else, this result is astonishing. The amount is small, but this has been reached in spite of an extraordinary amount of self-satisfaction and obstinacy on the part of most business men.

A striking feature during the past year has been a growing demand for the application of the Institute's methods to the general organisation and layout of factories.

The number of members and associations of the Institute has increased during 1927 from 984 to 1138.

A grant of £4,100 has been expressly given by the Trustees of the Laura Spelman Rockefeller Memorial to enable the Institute to move into larger premises.

During the past year the Australian Institute of Industrial Psychology has been established, with its headquarters in Sydney.

Something of the methods and uses of this Institute can be judged from the following brief notes of some of the work that has been done:—

The Institute has completed for a spinning mill the third year of investigation work, which is still in progress. Accurate analyses of the incidence of accidents and of labour turnover in the various departments have resulted in the recommendation of changes of organisation, which have been adopted with excellent results. More effective forms of lighting have been determined; and the problems connected with delivery rate, individual differences in spinning ability, unproductive machine time and bobbin storage are being successfully solved. The improved training scheme and employment office methods introduced by the Institute have effected considerable economies.

The assistance of one of the Institute's investigators was requested during the erection of one of the largest chemical works in the Kingdom, and the recommendations made and adopted include the

establishment of a planning department. Its function is to forecast and to record the progress made in all sections of constructional work. By the programmes and forecasts thus obtained, the activities of the drawing office, purchase department and construction department will be fitted to a common scheme. The progress records are being used to reveal likely difficulties, and as a basis for framing more accurate programmes of future work. Changes have been introduced so as to eliminate wasted time in the transport and delivery of construction materials. The investigator has also surveyed the chemical processes of the plant with a view to installing selection tests for workers; he has likewise systematised the study of accident and sickness incidence. The services of a second investigator have since been requested and he has begun work on certain problems relating to stores organisation.

The plans for the reorganisation of a departmental store restaurant in New York were completed in May. New methods have been devised, saving time and energy, for the collecting, sorting and washing of soiled china and table silver. A new lay-out for the kitchen and service promises to ensure greater smoothness of working and a higher speed of service—in other words, increased production with reduced strain on the worker. At the conclusion of the investigation the vice-president of the store cabled a message of warm appreciation to the Institute.

Numerous experiments and observations have been carried out in a screw factory with satisfactory results. A comparative study of machine-efficiency and of its relation to the subsequent hand-processes of sorting and packing has revealed wide variations in the number of "blank" screws ejected. In one class of machine it has been proved possible to eliminate spoilt work almost completely, thus reducing sorting time.

It is estimated that the introduction of a device for shaking "riddles" will reduce by 18 per cent. the time formerly needed for this operation. In the hand processes, experiment has reduced the reflection and glare which formerly arose from the bright surfaces of the screws and were liable to cause eye-strain. The methods of storage and transport in the warehouses have been revised, so as very materially to facilitate the making-up of orders. Improvements in seating, lighting and ventilation have also been recommended.

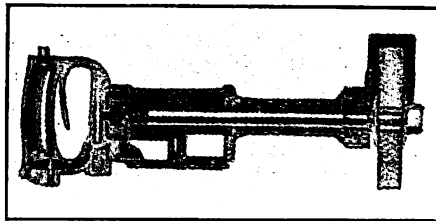
Preliminary surveys have been carried out at typical railway goods stations in three large provincial towns. These inquiries have disclosed a rich field for the application of Industrial Psychology in railway work. In any inquiry directed to the establishment of closer relations between variations in the number of workers and variations in the tonnage handled throughout the day, it has been found possible to eliminate certain "overtime" work which has always been a grievance among the men and an expense to the company. Recommendations have also been made concerning the routing and checking of waggons, the methods of wage payment, the use of electrical as compared with hand equipment, the better planning of work spaces, improved illumination, and the provision of training for the men.

These are only examples of many hundreds of ways in which Industrial Psychology is bettering industry. They show that it is needed.

Machinery

Air Grinder.

The Rotor Air Tool Co., of Cleveland, Ohio, U.S.A., have designed an air grinder, known as the "High Production" Model D.1., intended exclusively for the use of rubber-bonded "Redmandol" or "Bake-lite" wheels. The machine operates under load at 5,400 r.p.m., giving 8,500 surface ft. per minute.

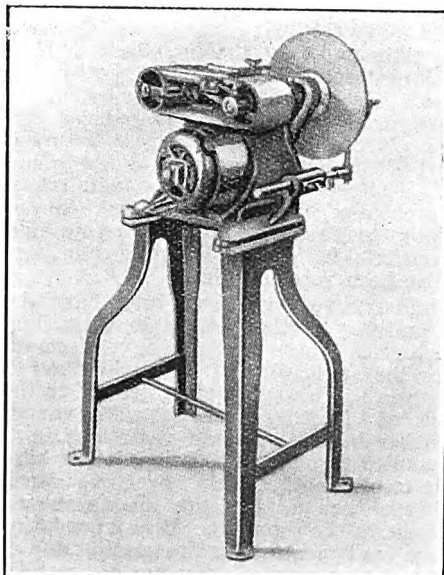


Free speed without load is controlled by a quick-acting governor that cuts off the air at 5800 r.p.m.

The rotors operate in a film of oil, and do not touch the cylinders. The spindle runs in ball bearings. The exhaust and inlet sides are sealed by the fibre blades riding on the chrome-nickel steel rotor. The construction concentrates wear on the fibre blade which can be replaced in five minutes and at low cost. With rubber-bonded wheels, an increase in cutting ability of 30 to 50 per cent. on cast iron is obtained.

Abrasive Band and Disc Grinder.

The Walls Sales Corporation, of 96 Warren-street, New York City, U.S.A., have placed on the market an improved abrasive band and disc grinder, known as the Duplex M.



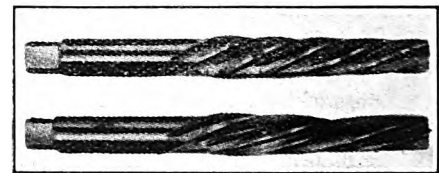
The machine is motor driven and has the regular quick-change band feature. The abrasive band can be changed quickly while the machine is in motion by pulling out the lever, thereby drawing in one pulley and releasing the band.

The abrasive band always lies perfectly flat on the table when the lever is released. The table over which the band operates is 10½ in. long by 5 in. wide, and is placed true to produce a true level surface on the finishes. A 4-in. wide abrasive band is used, which can be brought to any fixed position by adjusting two thumbscrews.

The grinder has a 12-in. removable steel disc and a grinding table, which may be raised, lowered or turned into various angles. Rough grinding can be done on the disc and finished on the abrasive band, producing a straight grain finish on metal, wood or composition parts in a rough, smooth or fine finish, dependant upon the class of abrasive used. The grinder is operated by a ½ h.p. motor connected by means of a silent chain drive. The speed is 1750 r.p.m. The machine occupies a floor space of 29 x 24 in., and weighs 225 lb.

Taper Reamers.

A helical fluted taper reamer, in which the helix angle of the cutting edges varies between flutes, has been brought out by the Manchester Tool Co., of Manchester, Conn., U.S.A. This arrangement of



the flutes has the apparent effect of producing a reamer with a greater number of flutes at the ends than at a point midway between them.

For instance, in a reamer having nominally six flutes, there will be that number at both the large and the small ends, yet there is but five flutes to be counted around the middle of the body. The blending is such that no distortion is apparent.

The claim made is that the different helix angles at which the several blades are disposed effectually forestalls tendency to chatter, thus only smooth holes result. The peculiar feature of the reamer does not complicate the matter of resharpening; it may be ground on centres, supported by a finger-rest, in any ordinary equipment. The actual number of the cutting edges to be ground is dependent upon the size of reamer.

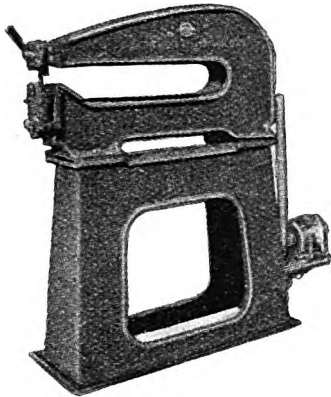
These reamers are made in pairs, each pair including a finishing reamer of this type and a roughing reamer of the same size, with uniform helix angle, and with blades nicked at intervals—to break up chips. They are furnished in all standard sizes of Brown & Sharp, Morse or Jarno taper, and with squared, round, or tapered shanks. In all reamers the helix is laid on left hand.

Universal Shearing Machine.

F. J. Edwards Ltd., of Euston-road, London, N.W., have produced a universal shearing machine for all regular or irregular shapes, whether internal or external. It will cut sheets up to 14 gauge.

The machine may be driven by hand, pulley or motor, and the spindle runs on ball bearings. The

depth of gap is 30 in. It is said the machine has a straight-out shearing action which does not nibble and is without self-feeding tendencies. Only the lower blade vibrates, the top blade being stationary

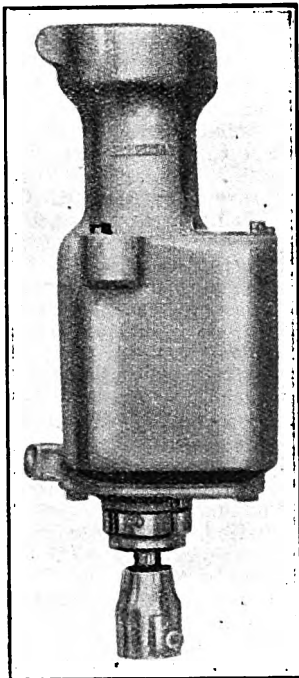


to facilitate following the shearing line. The blades are adjustable for wear and can quickly be removed for regrinding.

When dealing with internal shapes the top blade is raised by means of the lever shown; the sheet is inserted and the blade is lowered again so as to pierce the sheet at the desired starting point when the cutting action proceeds. No preliminary drilling or piercing is necessary. The weight of the machine is about 714 lb.

Friction Tapper.

The Fosdick Machine Tool Co., of Cincinnati, Ohio, U.S.A., are responsible for a friction tapper, designed for use on the company's high-speed sensitive drilling machines. It is applied to the lower end of the spindle sleeve, and by its use it is possible to tap to the bottom of a hole without danger



of tap breakage, even though the holes may vary in depth.

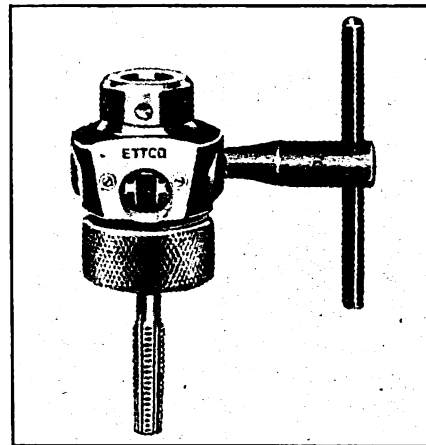
The device operates efficiently at any speed. The forward and reverse mechanism consists of two sen-

sitive but powerful self-adjusting, multiple-disc frictions running in oil. Downward pressure on the feed lever drives the tap forward, while the upward pressure reverses the tap for backing out. The adjustable depth stop on the spindle sleeve is used for accurate depth tapping. Ball bearings are used on all revolving parts.

These tappers are made in three sizes, the smallest having a capacity of $\frac{1}{8}$ in. at 3000 r.p.m.; the next a capacity of $\frac{1}{4}$ in. at 1500 r.p.m.; and the largest a capacity of $\frac{1}{2}$ in. at 500 r.p.m.

Tap-holding Chuck.

A new line of tap-holding chucks has been introduced by the Eastern Tube & Tool Co., of 594 Johnson-avenue, Brooklyn, N.Y., U.S.A. Among the features stressed are visibility, since the operator can see the two floating jaws actually gripping the squares. Then the grip on the squares is positive



by two powerful floating jaws tightened with a key, and accuracy is secured by centring on the round part of the shank

The gripping jaws operate by means of a right and left hand thread, and are free to close transversely, as their only function is to grip the square and prevent the tap from rotating. The tap is centred by three jaws, closed in by a knurled collar. The two gripping jaws for the square are made of high carbon alloy tool steel, heat treated and ground to an accurate fit on the body. The lower centring jaws are also of tool steel, heat treated and ground.

The tap chucks can be furnished with backs threaded, tapered backs, or with Morse taper shanks. Provision is made for pinning the threaded shanks securely in place. The chucks are also made with the back extended one inch, so that they can be used in tap holders of screw machines. The tap chuck fits directly into the tap holder and is secured by a setscrew.

In operation, the tap is inserted in the chuck and the knurled collar tightened by hand, after which the two gripping jaws are tightened with a key. The chucks are furnished in three sizes, Nos. 1, 2 and 3. No. 1 has a capacity for a round shank, $\frac{1}{4}$ in. in diameter, for taps up to $\frac{3}{8}$ in.; the No. 2 has a shank capacity of $\frac{3}{8}$ in. and a tap capacity of $\frac{1}{2}$ in.; the No. 3 has a shank capacity of $\frac{1}{2}$ in. and a tap capacity of $\frac{3}{4}$ in. Two larger sizes are being designed.

Publications Received

Handbook for Foundrymen.

A "Handbook for Foundrymen, Engineers, Iron and Steel Workers," prepared by Beecroft & Partners Ltd., of Sheffield, is now in its third edition. The firm are consulting metallurgists and foundry chemists, and here in small compass they not only call attention to the services they offer, but present a good deal of practical information for all who are interested in the working of metals. They are the proprietors of various preparations used in such work—fluxes, and powders and others.

As will be seen from the firm's advertisement on another page, they are prepared to send a copy of this booklet free of cost to any trade applicant. Their agent for Australia is Mr. Johnson, 154 Castlereagh-street, Sydney.

Australian Engineering Standards.

From the Australian Commonwealth Engineering Standards Association we have several additional publications. One of these represents a completed task, the preparation of a standard specification for "Telephone cable, paper insulated, lead covered," while the others are tentative only, covering (1) certain railway rolling stock material, (2) indicating ammeters, voltmeters, watt-meters, frequency and power-factor meters, and (3) parallel sided carbon brushes for d.c. commutator machines.

Since the foregoing was written, four additional tentative standards have come into our hands from the same source. These deal respectively with (1) tramway axles, (2) quicklime and hydrated lime, (3) fixed condensers for radio reception purposes, and (4) graphic (recording or chart-recording) ammeters, voltmeters and wattmeters. The dates on the covers are December, 1927, February (2) and March, 1928.

The headquarters of the association are at Macleay House, 16 College-street, Sydney.

South Australian Manufactures.

The fifty-eighth annual report of the Council of the South Australian Chamber of Manufactures Inc. for 1927 has been issued in pamphlet form with other related material. After holding office for two years, Mr. Robert Duncan retired and Mr. F. N. Simpson, of A. Simpson & Son Ltd., was elected president for the current term. Following the usual custom, his portrait is given by way of frontispiece. A picture of the Chamber's new building in Pirie-street, Adelaide, also appears and another of the memorial tablet which graces the front entrance. The building is a substantial structure of five storeys (to be raised to nine ultimately) with cantilever verandah shadowing shops at ground floor level on two street frontages.

Official statistics pertaining to trade and industry, both State and Commonwealth, fill twenty odd pages of the little volume and fully twice as many more are occupied with alphabetical and classified lists of members of the Chamber. The membership stood at 441 when the report closed. Seven past presidents still serve on the Council, which is split up into no fewer than seventeen different committees representing as many interests or industries. Mr. H. E. Winterbottom is the secretary.

Australasian Manufacturers.

A new issue of "The Australasian Manufacturers' Directory" is a very welcome addition to our shelf of such reference publications. And a very presentable volume it is, a volume of some 1100 pages $9\frac{1}{2} \times 7\frac{1}{2}$, cloth-bound in stiff covers.

The larger part of the book is occupied with a subject matter classification of Australasian manufactures from "Abattoir Machinery" to "Zinc White," the names and location (but not the full address) of every manufacturer in Australia and

New Zealand known to be making the goods thus classified being listed, also alphabetically, under each class or heading. For the full addresses the consultant must turn to the concluding and smaller part of the book, which is printed on brown paper for distinction and convenience. Here, in alphabetical order, are the names and full addresses of all the manufacturers previously mentioned under one or more of the subject-matter classifications. To avoid cross headings and facilitate reference, the full untechnical names are used in the latter. Thus, "Conveying Machinery" will be found under "C," and "Steel Pulleys" under "S." A new section has been added of prominent Australian trade-marks and brands, and to this is appended a full list of the registered patent attorneys and trade-mark agents of Australia with their addresses.

This ninth edition for 1928-29 is "longer," or thicker, naturally than its immediate predecessor, and examination discloses additions to many of the groups. Every effort has been made to bring the information up-to-date, although over so wide a field and with new industries or new enterprises making their appearance all the time, it cannot be expected to be exact or exhaustive. The book is not issued every year—the expense is too great for that—but at longer intervals. Published by the proprietors of "The Australasian Manufacturer," copies may be obtained at the offices of that paper in Sydney, Melbourne, Adelaide and Brisbane.

Canada and the Empire.

"The Empire Mail" of March last was a "Special Canada Number," the outcome of a six months' tour of the Dominion made during the previous year by Mr. Theo. Feilden, the editor-in-chief. Inter-Empire co-operation and development are main planks in the paper's platform, and as 1927 marked the diamond jubilee year of Canadian confederation Mr. Feilden went to Ottawa to participate in the official celebrations and afterwards travelled all over the country addressing meetings and securing matter for this special number. The matter thus gathered together represents every part and phase of Canadian life. Portraits appear of leading men in national and provincial affairs, from Viscount Willingdon, the Governor-General, downwards.

At the time of the union in 1867 only four provinces—Upper and Lower Canada, Nova Scotia and New Brunswick—were covered by the incorporating measure, but since then there have been additions and rearrangements. To-day nine self-governing provinces go to form Confederated Canada, these from east to west being Nova Scotia, Prince Edward Island, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. In that order each of them finds a place in the publication under notice, men well qualified to do so from practical knowledge and experience telling of their resources and attractions. Together they hold a population of nearly ten millions. On this subject a few sentences from a hurried record of his tour by Mr. Feilden himself will be of interest to the people of Australia and New Zealand:—

"Population is what Canada wants mostly, and, of course, the right kind of population. Where men and women settle, there trade begins and expands, and I am very anxious that those men and women should be of British stock, because therein lies, I am assured, the future greatness of Canada and its advancement side by side with Britain as a partner in the mighty Anglo-Saxon Confederation, which must mean something bigger, far bigger, more inspiring and more stable than building up the country with too large a preponderance of alien races. Not that I deprecate the importation and admixture of certain foreign elements. Many foreigners have made first-class settlers in Canada and have become good citizens, but in my view there should be a much more careful selection than has hitherto been the case."

Paints and Painting Requisites

Buyers' Notes for Retail Dealers

Sydney

William Adams & Co. Ltd., of 175 Clarence-street, Sydney, carry stocks of "Ferrodor" anti-corrosive paint, made from a natural metallic powder which contains up to 95 per cent. of rustless peroxide of iron. As the peroxide cannot absorb further oxygen, the oil of the paint is not destroyed, and the passage of oxygen through the paint to the surface of the subject painted is rendered impossible, giving the mixture extra long life. The paint is good for iron, steel or wood, and is sold in paste form so that it can be mixed when required. It is non-poisonous, rust-preventing, and unaffected by sulphur, ammonia and other gases, salt air and sea spray. The firm are sole Australian agents for the makers, Griffiths Bros. & Co. (London) Ltd.

Lewis Berger & Sons (Australia) Ltd., of Rhodes, near Sydney, are now marketing Rogers' brushing lacquer in a spraying consistency, and it is possible to lacquer any article with a hand gun more easily and in less time than it usually takes with the brush. The lacquer gun, which is sold with the mixture, is of a size suitable for household use, and is easy to handle.

Fifty-four different coach and motor car colours are manufactured by the firm, and some of these are obtainable in 4 oz. tubes. Another product is a filler designed for use on motor cars, coaches, railway carriages, safes and fine machinery. It is suitable for use on wood and metal, and comes in paste form. Berger's paste wood filler is for open wood grains, hardening quickly and with elasticity. Then "Solvoid" is an efficient paint and varnish remover. Undercoating motor enamels are combinations of fine and strong colours with varnishes of high grade, and will dry hard in twenty-four hours, giving a clear finish free of brush marks. After hardening, the enamel should be rubbed and coated with motor body varnish, or a coat of superfine enamel.

Berger's cement and floor paint is made in five colours, two coats being sufficient to cover a floor well. "F.O.B." cold water paint is an oil-bound paste which can be readily thinned with cold water to the consistency desired, and is suitable for interior and exterior work. "Homecraft" enamel is a gloss material suitable for use inside and outside, and is easy to apply, leaving a solid coat after one application.

"B.P." prepared paint is made ready to use for inside and outside work in all classes of buildings, the addition of oxide of zinc to the lead and oil giving a handy and more durable film, and overcoming the tendency of lead and oil paint to powder and chalk and lose its lustre. "Opex" is the name given to a line of products, including lacquers and enamels, polishing wax, hood dressing, "Silverglo," and brushing lacquer.

Borthwicks Pty. Ltd., whose factory is at Elizabeth and McEvoy streets, Waterloo, Sydney, make a wide variety of paints, varnishes and enamels, the chief of which are "A.B." paints and "Splendene" enamels. Outside Australia they do business with New Zealand, Java and the Pacific Islands. "A B" paint, has proved specially suitable for marine work, the mixture of lead and zinc delaying the "chalking" which is liable to take place near the sea shore when white lead alone is used. It is sent out ready for

the brush. "Snowette" milled white is suitable for iron, cement sheets or stone. It dries out evenly, leaving a velvet finish free from brush marks, and is ready for use except for the addition of cold water. "Snowette" is also the name given to the firm's milled colours, and all are obtainable in tins ranging from 2 lb. to 56 lb. Among their varnishes is "Yachtvar," a high-quality mixture suitable for yachts, boats and all marine work. Nine kinds of varnish are made for coachbuilders. The list of varnishes for house painters and decorators includes some beautiful mixtures for inside work, as well as for exterior use.

Briscoe & Co. Ltd., of 383-85 Kent-street, Sydney, are distributing the "Chief" brand paint, a Sydney product put up in pint, quart, half-gallon and four-gallon tins, ready mixed. The paint is recommended for household purposes. Sold at a lower price, the "Ajax" brand of household paint comes ready mixed in one, two, four, seven, 14 and 28 lb. tins. Other makes of local and imported paints are carried together with a large variety of stainers in Australian and imported brands.

Brushes are available with pure bristles, while mixed varieties are lower in price. Rubber set or vulcanised brushes of Australian manufacture are recommended, not only because of their durability but because the bristles withstand the mineral oils, now so largely used by painters, without coming loose.

Robert Ingham Clark & Co. (Aust.) Ltd., incorporated with William Docker Ltd., of McAuley-street, Alexandria, have placed on the market a new paint to which the name "Impenetrable" has been given. Although it contains no lead and is non-poisonous, the mixture is said to have the same covering capacity and durability as the best lead paint. This is achieved by the blending and treatment of selected oils, the result being that the "chalking" or powdering of the surface is delayed and the coat lasts longer. It is a common practice to add varnish to paint to give it a good gloss, but this is not necessary, the makers maintain, with their new product. Another advantage is that the coating is not quickly affected and discoloured by the acid contained in smoke and other fumes, a point of importance when buildings are in industrial districts or near railway lines.

Another line being marketed is William Docker's Mill White, a washable paint made to withstand the weather and for interior decorations. It can be used upon all kinds of surfaces, and is recommended where good lighting is needed, the intense whiteness accentuating as well as reflecting the light rays.

Mr. Lindsay A. Cormack, of 4 Underwood-street, Sydney, who is the Australian agent for Ripolin Ltd., carries large stocks of that company's products. "Ripolin" is a high-quality enamel paint, and is made in two grades, gloss and flat, in white, broken white, and many stock shades, and can be supplied to match any tint.

Gloss "Ripolin" dries with a hard porcelain finish, but its elasticity is a marked feature.

Flat "Ripolin" is an enamel which flows out evenly, and only requires spreading. It can be applied freely, the same as varnish. Semi-gloss effects can be obtained by mixing the flat and gloss

grades together in stated proportions, and both can be used with the brush or spray.

"Ripolin" paste filler, for undercoating and filling up, is made with a specially prepared lead base for ordinary use, and also with a base of zinc oxide for use in such places as hospital wards where lead paint is considered deleterious to the health of the patients. "Fletto" is a zinc white undercoating with a good body and a fine spreading capacity, for inside use. Gold and silver bronzes are supplied ready for use in pale and deep gold, silver and aluminium.

John Danks & Son Pty. Ltd., of 324-30 Pitt-street, Sydney, are featuring "Bondza" varnish brushes, which, instead of being set in shellac, are vulcanised, a method which not only prevents the hairs from coming out when the brush is dipped into mineral spirits, but permits the use of the longer bristles.

Kalsomine brushes are available in various qualities, a feature being that the bristles will not curl. Rogers' lacquer is also handled, eighteen standard colours being available, and these can be intermixed to produce various other shades. One coat of the lacquer is sufficient for an ordinary surface. Although it is known as a brushing lacquer, better results can be achieved with an ordinary garden spray, and motorists use it in this way for the purpose of touching up their mudguards. "Silverglo," a comparatively new aluminium paint, is of use to motorists, or where an aluminium finish is desired, one of the features being that it is rust-proof.

W. S. Friend & Co., of 113 York-street, Sydney, are now able to supply sheet glass in all sizes from 16 to 21 oz. in case lots containing 100 sq. ft. The firm are N.S.W. distributors of "Zapolin," a spraying lacquer for car painting, made with a pyroxylin base, and having quick-drying properties. This is due to the rapid evaporation of the solvents in which the nitro-celluloid gums are dissolved. "Zapolin" does not become sticky in humid atmosphere, nor dull with age. Grime and finger-marks can be removed with a damp cloth.

The De Vilbis spray-finishing equipment carried by the firm is made in a number of sizes, suitable for finishing furniture, motor bodies, and general work where a portable plant is not necessary. The machine is adapted to the application of lacquer, enamel, varnish, stain, shellac and paint materials.

An improved type of machine is equipped with a series of baffles for extracting impurities. The baffles collect the oil and moisture, making the purifying operation automatic. A regulator is also built into the transformer to enable the operator to alter the air pressure when handling different kinds of material. The construction of the spray gun is such that, with air pressure ranging from 30 to 80 lb., and a minimum air consumption, materials are evenly atomised.

Complete stocks of painters' cutlery, burning-off lamps and glass-cutters are also carried. The firm are Australian agents for John Hare & Sons, Bristol, England, manufacturers of grinders, oxides, ochres and all dry colours and colours in oil. Brushware for painters includes rubber-set varnish brushes, which, unlike those set in shellac, will not loosen in spirits.

H. P. Gregory & Co. Ltd., of 74 Clarence-street, Sydney, are featuring the Binks spray-finishing equipment, a device that has been on the Australian market for some years, and is now available for a number of new purposes. The Binks No. 105 gun is fitted with the "Strait-port" nozzle, and is made for applying paints, varnishes, enamels and lacquers to motor cars or furniture. The nozzle head is adjustable to a flat spray to any degree of angle or position, and the amount of paint or cover desired is regulated by a material control adjusting

screw on the gun. Should a clog occur, the passage can be cleaned with a piece of straight wire. For the furniture-finishing department the gun is served by a pressure-gravity syphon container and air conditioning unit. The first pull of the trigger sweeps all dust and foreign matter off the surface to be coated, and, with another pull is produced a spray which can be thrown either horizontally or vertically, or round, by a simple movement. The material pressure containers give the operator constant control over the correct flow of material when being applied, and interchangeable receptacles for the various materials can be inserted in the tank.

The Binks "touch-up" equipment is made for removing the chips or cracks from cars. It consists of a gun spray with air hose and cups for the material, and serves the purpose where the larger power apparatus is not required.

Other equipment is provided for painting railway carriages and large structures. For furniture dealers is available a special outfit by the use of which an unskilled man can touch up soiled furniture.

Grimley Ltd., of Monarch House, George-street, West, Sydney, are sole agents in New South Wales and Queensland for "Tokiol" enamels and varnishes for motor car finishing, a feature of the enamels being that the car is dried ready for the street in five hours. "Tokiol" finishing varnish is a pale body varnish with a brilliant lustre which dries as hard as lacquer and is impervious to weather, boiling water or petrol.

Borthwick's enamel paints dry with a hard, enamel finish, and are non-poisonous. They are used for enamelling furniture. "Butlerine," the firm's own brand, is a ready-mixed paint specially useful for outside work.

The firm also distribute the Sherwin-Williams paints for coaches and motor cars. Among other lines shown in this department are assorted varnish brushes, 12 and 16 on a card, to retail at low prices.

S. Hoffnung & Co. Ltd., of 163 Pitt-street, Sydney, are distributing "Hycolite," a product described as a "liquid wallpaper." The preparation can be applied with a brush to any surface, such as wood, fibro-cement, plaster, paper, brick or stone, no skill being required for the operation. Owing to its thickness, only one coat is necessary, and a 7 lb. tin will cover a surface of 200 sq. ft. Although the initial cost is a little higher than that of paint, it is claimed that it is more economical in the long run. It resists heat and damp, and is specially suitable for walls of bathrooms. The material is aseptic, no bacteria being able to live in it, and as there is no smell rooms treated with the preparation can be occupied in eight or ten hours.

Among the covering compositions carried are Carter's cold water paints and Hodge's kalsomine. Painters' cutlery is stocked in full range, prominence being given to putty, scraping, and glazing knives from E. A. Dickinson Ltd., Sheffield.

Keep, Macpherson Ltd., of 252 George-street, Sydney, are carrying stocks of "Japonette" enamel, manufactured by Blundell, Spence & Co. Ltd., the product being made in white and fifty-four different tints. The mixture is slow setting, and flows freely under the brush, leaving no brush marks and not becoming "ropy." It dries in about twelve hours, and continues to harden for three or four days. A rich, smooth surface is obtained, and the permanent gloss does not crack, peel or bloom.

From the same makers comes transparent, petri-fying liquid for inside or outside use. The mixture is specially prepared as a first or priming coat for damp walls, new plaster, brickwork or cement.

A choice selection of new season's wallpapers, cut out borders, friezes and other lines are also being shown.

James Sandy & Co. Ltd., of 326-28 George-street, Sydney, are the distributors in Australia of the "R.I.W." damp-resisting paints and compounds made by Toch Bros., whose works are in New York, London and Toronto. Among their products are waterproof paints for outside walls. "Toxloxpore" is a species of gutta percha in solution, and is applied direct to concrete, limestone and similar walls. "R.I.W." cement filler is a transparent organic acid-resin composition used for the prevention of the wear and dusting of cement floors in factories and other buildings. It is oil and water proof, and the floors can easily be kept clean by washing. A number of other damp-resisting paints by the same makers are stocked.

Recently introduced is a mixture to which the name of "Quikstryp" has been given, and for which the firm are sole distributing agents throughout New South Wales. Made by the Quikstryp Products Co. Ltd., of 154 Castlereagh-street, Sydney, the mixture is used for removing paint, enamel, duco, polishes and all coverings from wood or iron as well as varnish from paper. It is in semi-paste form, does not run, and is applied with a brush.

The Standard Paint & Oil Co. Ltd., whose factory is at Baxter-road, Mascot, and city office at 255a George-street, Sydney, are makers of the "Chief" brand paint, a high-grade mixture of good covering capacity suitable for inside and outside work. "Q.D.E." is a zinc oxide non-poisonous paint of good quality, put up in lacquered tins containing 3, 4, 1 and 2 gallons. "Standard" brand ready-mixed household paint is recommended for ordinary use, and is sold by the gallon and by weight, in tins of various size. Stainers are also available, the "Chief" brand being of high quality, and "Thistle" brand of lower price.

The Sterling Varnish Co., whose works are at Huntley-street, Alexandria, have introduced a special titanium zinc paint in permanent white and a number of clear tinted tones. This paint is easy to mix, and it works freely and smoothly. It is non-poisonous, and is recommended for use on boats, launches and marine work. Supplies are available in tins containing one, two, four, seven, 14 and 28 lb., and 1 cwt.

"Rex" household paint is a high-grade product now finding users all over Australia. Another product has been given the name of "Artisan" paint, a low-priced mixture put up in one and two lb. tins, and also in imperial measures.

Taubman's Ltd., of Mary-street, St. Peter's, Sydney, are marketing an improved nitro-cellulose lacquer under the registered brand "Fascinac." No skill is required in its application, and brush marks flow out, leaving a smooth level surface of pleasing lustre that improves with age. It is obtainable in a full range of specially chosen colours as well as clear gloss.

"Fascinac" clear linoleum lacquer, also of nitro-cellulose composition, is guaranteed to stand the stress of household traffic on linos. and stained floors. Easy to apply and of long-wearing properties, it is an excellent article for domestic use.

Westcott, Hazell & Co. Ltd., of 247 Castle-reagh-street, Sydney, are distributors in N.S.W. of the "Spraco" patent spraying equipments, which are stocked in portable and stationary sizes, electrically or petrol driven. The gun gives a uniform spray at a low pressure, the width of the spray can be controlled in any plane, and a nozzle shut-off prevents leaking or "spitting" of the paint after the trigger is released. The partial pull of the trigger admits air only for dusting or drying off the work. A further point is that the container can be detached and the gun used on either pressure or gravity fed equipments.

Williamson, Croft & Co. Ltd., of 268-70 Castle-reagh-street, Sydney, are featuring their own make of "Acme" paint and varnish brushes, which are now set in genuine vulcanised rubber. All sizes of brushes are available in the new style. The B.A.L.M. prepared paints for decorators' use are offered in different qualities for inside and outside use, and are supplied in twenty-four colours as well as whites and blacks. BALM carriage gloss paint is recommended for carriages, cars, and bath-heaters. It paints and varnishes in one operation. Another production of the British Australian Lead Manufacturers Pty. Ltd. has been given the name of "Endurance" paint. Durable and easy to apply, it is available in various colours. "Palm Brand" covers another paint handled by the firm, all ready for use when mixed with cold water. Lacking some of the qualities of oil paint, it is much lower in cost, and can be applied to different kinds of surfaces inside or outside. Kalsomine is also put up under the same brand.

Melbourne

John Danks & Son Pty. Ltd., of 391-403 Bourke-street, Melbourne, are distributors of Berger's paints and varnishes, a well-known and approved brand which can be obtained for every purpose. Besides the regular paints, many special Berger preparations are made for household use. A handy line is their "Silverglo," which imparts a silver finish to any metal surface. Not only is it useful within the house, but for waterpipes, bird cages, motor radiators, and similar articles it provides a quick method of brightening and protecting.

In this section Rogers' brushing lacquer is a preparation akin to the spraying lacquers used on motor cars and furniture, but suited for brushing by hand. For renewing shabby woodwork it is specially recommended. It is applied so easily and dries so quickly that it instantly appeals to the householder, when demonstrated. Some eighteen colours are supplied, and a judicious mixing of these gives an endless variety of tones.

"Sapolin" products are always of interest, and a polishing cream of this brand is proving a good seller. This is intended by the makers for use on pianos, furniture, woodwork, motor cars, clocks, leather, upholstery and glass surfaces. "Sapolin" cream has, we understand, been well tested, and may be used on the most delicate finish without any harmful effect. Nor does it soil the hands. It is put up in bottles containing from four to sixteen fluid ounces, and a still larger size is available.

An enamel known as "Botanite" is now being displayed by the firm. This is a bituminous anti-corrosive compound, good for agricultural implements, roofs, chemical containers, cycles and motors and all metal appliances. It is said to dry speedily, leaving a brilliant covering, which is unaffected by acids, cyanide or ammonia. Another form of this substance is "Botanite" motor tyre paint, which is intended as a preservative for rubber.

Mention should be made of "Seagull White," an oil-bound paint which may be thinned with water, and is suitable for interior work of all kinds. It is packed in cans of from 4 lb. to 56 lb. weight. An exterior "Seagull" paint is also supplied, both white and in colours.

The firm carry large stocks of all paints, white and red lead, oils, turpentine, and dry colours, and also the various tools required by the painting trade.

Hawkes Bros. Pty. Ltd., of Geelong and Melbourne, cater extensively for the painting trade. Ready-mixed paints, for all purposes, are in large supply. In addition to prominent Australian makes, the firm carry stocks of their own "Corio" brand, which they recommend for all uses. A good protective paint with a coal tar base is "Tarsene," suit-

able for outside coatings. Masury's paints in gold size are constantly available.

As district agents for "Spartan" lacquer, attention is drawn to the various types for motor spraying. Every colour is supplied, and the complete equipment, spraying plants and accessories may be found here. A brushing lacquer of the same brand is well recommended. This is a quick-drying product, easily cleaned, and is useful for all household purposes. All standard colours are kept. "Unity" hood dressing is a rubberised material, which makes a good covering preparation for the purpose. Amongst household lines are "Ezywerk," "Corio" enamels and stains, and aluminium and gold paints.

The leading makes of red and white lead are represented, and new shipments of linseed oil, both Australian and imported, are regularly coming forward.

In the brushware department full stocks of all paint brushes are displayed. The popular numbers of well-known Australian flat, kalsomine, and white-wash patterns may be had, as well as Hamilton's and "Briton" brand sash tools and varnish brushes. Other tools and appliances used in the painting trade include Christopher Johnson's putty knives, palette and glazing knives, and glaziers' diamonds.

Hardie Trading Pty. Ltd., of 581 Little Collins-street, Melbourne, are agents for Jenson & Nicholson Ltd., of London. Amongst a complete range of colours and pigments they are noted for a number of special preparations which are well and widely known.

Their "Denswite" is made from a non-poisonous base, and is recommended for use where white lead is indicated. It is claimed to cover well, and give a first-class body. "Denswite" is guaranteed permanent to light, and lends itself to tinting in any shade with ordinary oil stainers. "Coptic" prepared paint is another composition familiar to the trade. This is made from white lead and zinc with linseed oil. Some thirty shades are supplied besides white and black, and it is packed in pints and half-pints, and also in quarter, half and one gallon tins. This is a popular and saleable line.

These manufacturers' catalogue shows a large selection of materials for special purposes—enamels, distempers dry and in paste, "Anti-Dampene" for protecting cement or plaster against moisture, and many others.

Varnishes, again, comprise an important department of their activities. There is a preparation for every specific job, and a fine reputation for quality has been gained during the past century.

A few words should be said also about "Robbialac," an enamel for cycles and motors. Here the aim has been to provide a reliable covering which may be used by any car or cycle owner. There is no mystery about its use, for with ordinary care, and by following the simple instructions given, an excellent job may be done by the amateur. A cylinder black in the same brand is prepared for cylinders, exhausts and silencers. It keeps the metal clean and bright, and stands up against great heat.

J. S. Kidd & Co. Pty. Ltd., of 410-12 Lonsdale-street, Melbourne, have a well-assorted stock of paints, varnishes, enamels and painters' requirements. A new display room has been opened by the firm, and samples of these products fill an important section.

In the paint department a big assortment is carried of "Mirror," "Sterling" and other well-known brands, including Taubman's "Solpah" paving paint. Each of these is put up in various handy sized tins to suit buyers, and a large choice of colours may always be had.

Household decorating preparations are amongst the best selling lines in the whole range, and the coming period of the year is perhaps the best time

for sales. In this section "Sapolin" varnish stains, aluminium enamels, and "Our Favourite" gold enamels are always useful stock. There are also under the same heading such articles as "Ezywerk," "Silvafros," "Hyglo," and many others, which need only to be displayed to interest buyers.

For the requirements of the painting trade full supplies of such standard lines as Champion's white lead (in all sizes), Meggitt's linseed oil, methylated spirit, turpentine, and shellac will always be found ready for prompt delivery.

Special attention is given to tools for painters' use, such as palette knives, scrapers, and brushware. Supplies of painters' brushes are obtainable for every purpose. Attention is drawn to the many different carded brushes for home use, which have been selected with a view to provide a good type of fibre at a minimum price. These are recommended for counter display, brushes of this type being most suitable for the purpose. It serves to remind every customer that he probably needs a brush of some sort.

Whitewashing, varnishing, and other special purpose brushes are now to be had in great variety, and excellent value is offered in these varieties. The firm are specialising on their own make of brushware, which is proving very popular with country storekeepers.

Thos. Mitchell & Co. Pty. Ltd., of 360 Lonsdale street, Melbourne, manufacturers of the "Victor" brand brushware, have a plant fully equipped for the production of paint brushes of all kinds, both for the tradesman and the householder. The two classes of brushes are entirely different, while the amateur needs an article which may only be used at infrequent intervals the expert must have good quality bristles and a well bound handle, to stand up to hard usage and produce a satisfactory job.

In one or two sections of the range, however, a cheap line may now be had which is made of the best materials. Owing to the use of modern machinery, it is now possible to securely set short ends of pure bristle, which was formerly wasted. In the case of many brushes an excellent grade may be purchased giving splendid value by utilizing these "cut offs."

Every kind of painters' tool is made at the firm's factory, whether for paint, varnish, or whitewash. One number that has found many friends is a thick haired varnish brush of fine quality. This is made in sizes from 1 to 4 in., and is carefully constructed throughout. Special cement, giving a security of fixing which is practically everlasting, and new methods of binding and setting have combined to give the trade an article which compares with the best imported.

Retail stores will find it profitable to display in prominent positions the range of home whitewash and distemper brushes, and the small type which are in every day use for staining floors, covering stoves, and the usual household jobs.

In addition to the above, the firm are suppliers of all paints, varnishes, putty, oils and turpentine, as well as glaziers' and decorators tools and accessories.

George Russell Pty. Ltd., of 452-60 Flinders street, Melbourne, maintain an important department devoted to paints, oils and colours. All the regular brands of red and white lead, putty, ochres, and linseed oils are stocked. The association of the firm with Sherwin-Williams products, of which they are distributors in Victoria, gives them the handling of an excellent range of paints and varnishes. These S.-W. products are made by an organisation fully equipped for the work, and are not only reliable as to quality, but come packed and labelled in the best possible way, while generous supplies of

suitable literature are available for the guidance of users. The retailer finds it profitable to handle lines which will do all that is claimed for them, and are delivered ready for sale in handy containers.

For every use, whether for trade or household, a paint or special preparation is supplied. Small paints for the home user are ready mixed so as to give the best results, and are supplied in a large range of colours.

A list of stains and varnishes embraces all shades to harmonise with the wood to be treated. Rogers' brushing lacquer is a good selling line for domestic use. The same applies to Sherwin-Williams' silver paint for metal surfaces of all kinds. Standing up well to heat, it is used for bath heaters, stoves, radiators, and similar appliances. For tradesmen, and especially woodworkers, all kinds of varnish are supplied, while the "Opex" spraying lacquers are provided for furniture, motor bodies, and other work where the celluloid finish is practicable. Reference is made elsewhere to "Opex" polishing wax, which is prepared expressly for imparting a high gloss to all lacquered surfaces.

Tarsene Pty. Ltd., of 81 King William Street, Fitzroy, are Paint Manufacturers and Merchants. Complete stocks are carried of stainers, dry colours, oils, turpentine and varnishes.

The Company are well known as makers of "Tarsene" Paint, a preparation which has been before the public and the trade for many years. Manufactured by a process all their own, the company have achieved considerable success with this composition, its qualities of resistance to great heat, the absence of lead, and various advantages due to the coal tar base, contributing to this result. Tropical conditions do not effect "Tarsene", and consequently it may safely be used upon iron roofs, steel structures, agricultural implements and similar conditions. Its non-metallic character finds it unimpaired by the fumes of sulphur and ammonia; while the persistent and penetrating salt moisture associates with sea water localities is successfully resisted.

Owing to the absence of any unpleasant odour it is suitable or use in factories where food is handled, and its elasticity and covering power are further recommendations. Attractively packed in tins of from one pint to four gallons, it may be had in a long range of colours, and for either inside or outside work.

The firm also supply "Tanox" a base for paint mixing which is an efficient substitute for white lead. This it is claimed makes up to 50 per cent. more paint, quantity for quantity, than white lead. It is put up in 28 lb., 56 lb. and 112 lb. containers.

Eliza Tinsley Pty. Ltd., incorporating the coach department of Alexander Mair & Co. Pty. Ltd., 652 Bourke-street, Melbourne, are distributors of Hadfield paints, varnishes and enamels. The "Heolin" two-coat paint process has been developed by this maker. Instead of the usual four-coat method of painting—priming, second colour, ground coat and finishing coat—it is contended that, using the "Heolin" products, an equally good job is possible at half the cost. An obliterating first coat is applied, followed by a glossy finishing paint. The range consists of white and forty-eight different colours.

The same process is used with enamel. For inside work a standard undercoating is provided, either gloss or flat finish enamel following. Where the enamel is used outside, the obliterating first-coat paint is applied beneath. This preparation is recommended where long wear is required, and where washing is necessary, in hospitals, hotels, wash-houses and similar buildings. For a smooth, matt surface the flat enamel is used. It may be applied upon a ground of flat zinc-white or "Heolin" undercoating, which is tinted to the finishing colour.

Semi-flat or semi-gloss effects are obtained by proper mixing of flat and glossy enamels.

A large range of varnishes is manufactured for decorating, and also for motor and coach body finishing. Motor body coats, glaze coats and finishing enamels are supplied in the various colours, of which fifty are standardised. Some interesting and instructive booklets are published by the makers of these products. Suggestions as to colour schemes for homes, and the correct methods of using the paints and enamels are clearly demonstrated.

Lacquers and Wax.

The Sherwin-Williams Co., well known as makers of S.W. paints and varnishes, are marketing spraying lacquers and materials for motor car bodies under the brand "Opex." It is not necessary here to enlarge upon the qualities of the lacquer finish. The entire problem of car painting has been revolutionised by this discovery, providing a handsome glossy coat which at the same time has wearing properties beyond comparison with the old finishes. Dented and damaged surfaces are easily and quickly repaired and the finish brought up to its original brilliancy when celluloid lacquer is used, whereas the least injury was irreparable in the case of the coach-painted body.

All that is needed to maintain the surface of a car in perfect order is a properly prepared wax, which is made by the manufacturers of these celluloid lacquers, and put up in handy tins for the car owner's use. Such a preparation is provided in "Opex," which the Sherwin-Williams people recommend for the purpose. It is made of a consistency and fineness which will not grind or scratch the surface, but brings the enamel to a high gloss.

It is a matter for surprise that many hardware stores outside the metropolitan areas do not stock this polishing wax. Instances are known where car users are in the habit of sending to Melbourne and Sydney for their supplies. This should be quite unnecessary. Most farmers own their cars now-a-days, as well as many people living in country towns. This means that polishing wax for motor bodies is an everyday line, as much a necessity as household paints or stains. A display of the preparation on the shop counter, with an attractive showcard, is advisable, and every car owner could have it brought under his notice.

"Opex" is put up in tins of $\frac{1}{2}$, 1, and 1 lb. weight. Once it has been used, and the results observed, it is safe to say that no car driver will be without a tin in his garage. The method of application is simple, and the labour trifling. The car is first thoroughly cleaned, and the polishing wax is applied sparingly with a small pad of muslin or other soft material. A small section is treated at a time, and afterwards rubbed with a clean cloth. Each successive polishing adds to the brightness of the gloss, the surface taking on a deep mirror-like lustre.

George Russell Pty. Ltd., of 452 Flinders-street, Melbourne, are Victorian distributors of "Opex" and all other Sherwin-Williams products.

American!

"What!" exclaimed the lady, "you charge me a dollar for that pie plate."

"Yes, ma'am," replied the polite salesman, "that is the very lowest price we can sell it for."

"How is it that I can get one just like it at Brown's for 90 cents?"

"I cannot say, madam. Perhaps Mr. Brown has taken a fancy to you. He is a widower and you are very beautiful and—yes, ma'am, one dollar. Thank you."

Electrical Notes from New Zealand

(Specially Contributed.)

The Railway Department reports that the work of electrification of the workshops at Addington, Hillside, Otahuhu, and Hutt Valley is proceeding at a satisfactory rate.

Tauranga Power Board has decided to apply to the Local Government Loans Board for sanction to borrow £25,000 for extending the reticulation system, and other work.

Franklin Power Board is arranging to have electric cooking demonstrations in various centres of the board's area, and will ascertain to what extent firms dealing in electric ranges are prepared to assist.

Poverty Bay Power Board's engineer advises that there are 1200 connections in the borough to be changed from direct current to alternating current, it being expected that this work will occupy another six months.

Christchurch municipal electricity department, in addition to its energetic advertising of the advantages of domestic electrical services, also backs up its campaign with service. Its latest contribution in this direction is the "Consumers' Guide and Cookery Book," one copy of which the department has issued gratis to each domestic consumer.

Grey Power Board reports an increase in consumers from 739 to 1454 during the last financial year. The average of units used per head of domestic consumers increased from 156.6 to 229.9, and the average per head of population in the board's area from 9.4 to 27.4, while average annual revenue per domestic consumer increased from £3/13/9 to £5 2/4.

New Plymouth Borough Council reports good business in the electricity department during the last year. An increase of 106 in the number of electric ranges brings the total up to 451, while water-heaters show an increase of 153, the total now being 433. During the year 530 new consumers were connected up, and 250 additions made to installations, the increase in connected load being 2260 kilowatts.

Auckland Power Board has accepted the tender of the Fletcher Construction Co. for £73,360 for the erection of an eight-story office building for the board, with frontages to Queen-street and Durham-street west. Work will be commenced immediately, the contract time for completion of the building being eighteen months. The board will occupy the third, fourth and portion of the fifth floors, the remainder being available for office accommodation, etc.

For a fourth 3000 kilowatt generating unit for Waipori power station the Dunedin City Council has accepted the tender of Boving & Co. at £4125 for a turbine, and of the National Electrical & Engineering Co. (for British Thompson Houston Co.) at £4640 for a generator. Further tenders will be called for the pipe line and the extension to the surge chamber required by the above unit. In view of the rapidly growing demand for power, the work will be pushed ahead as rapidly as possible.

Otago Power Board's annual report shows an increase of 708 consumers connected up during the

year, the number now being 3163. The popularity of electric cooking is shown by the fact that the board now has a connected range load of 1186 kilowatts, representing 186 ranges, the number of ranges for the previous year being 67. During the year 374 heating points have been installed, and 826 general-purpose points, while the motor load has reached 2791 h.p., an increase of 750 h.p. over last year's figures.

Tararua Power Board reports that there are now connected to its mains a total of 154 milking machine motors, 75 industrial motors, 42 dairy factory motors, 31 shearing motors, 17 separator motors, 25 water pump motors, and 4 washing machines. Fifty-three per cent. of the ratepayers in the board's area are consumers, the annual revenue from sale of current averaging £7/2/9 per ratepayer. The number of electric ranges represents one for every nine consumers. During the last year the number of consumers has increased from 1237 to 1307.

Work on the electrification of the Lyttelton tunnel has been proceeding steadily for some months, and it is expected that by the end of this year passengers will be able to travel in the speed and comfort of the electric trains, unaccompanied by the smoke nuisance which at present makes the tunnel portion of the journey so objectionable.

The work, which will cost about £193,000, is being superintended by Mr. G. W. Wyles, assistant electrical and signal engineer; and Mr. J. Michelle, electric lines inspector.

Tauranga Power Board's annual report showed a very successful year. New consumers connected up numbered 50, bringing the total up to 788. Sixteen and a half miles of new distribution lines were erected, making a total of 280 miles of electric lines in the board's area. Sixty-nine motors were installed, making a total of 407, representing 1776 h.p. The number of electric ranges installed is now 93, with a capacity of 567 kilowatts. Sixty house and shed hot-water services were put in, making the total to date 233, while 76 field pumps were installed. The total connected load is now 2881 kilowatts.

Recommendations for the immediate future development of New Plymouth's hydro-electric resources were submitted to a special meeting of the Borough Council, held on May 31, by the borough engineer (Mr. C. Clarke). The engineer recommends that the development be carried out in two successive steps: first, the daily regulation of the present flows of the Waiwakaiho and Manganahoe Rivers by the erection of a dam and embankment in the latter river at an estimated cost of £40,338; and, second, the provision of an independent semi-automatically controlled station on the lower Waiwakaiho at an estimated cost of £85,415.

The Public Works Department is making steady progress with the construction of the Waikaremoana hydro-electric scheme. On the power house, a reinforced concrete building, work has reached the roof level. The first of the two main generators, of 20,000 k.v.a. capacity, and 11,000 volts, manufactured by Metropolitan-Vickers Electrical Co., has arrived in New Zealand, while the first of the main turbines, of Armstrong Whitworth manufacture, is on the way out. The Dunedin Engineering Co., contractors for the two pipe lines, are nearing the completion of their section of the works. The tunnel for conveying the water from Lake Kaitawa to the surge chamber from which the pipe lines draw their supply has been completed, and good progress has been made with the other portions of the head works.

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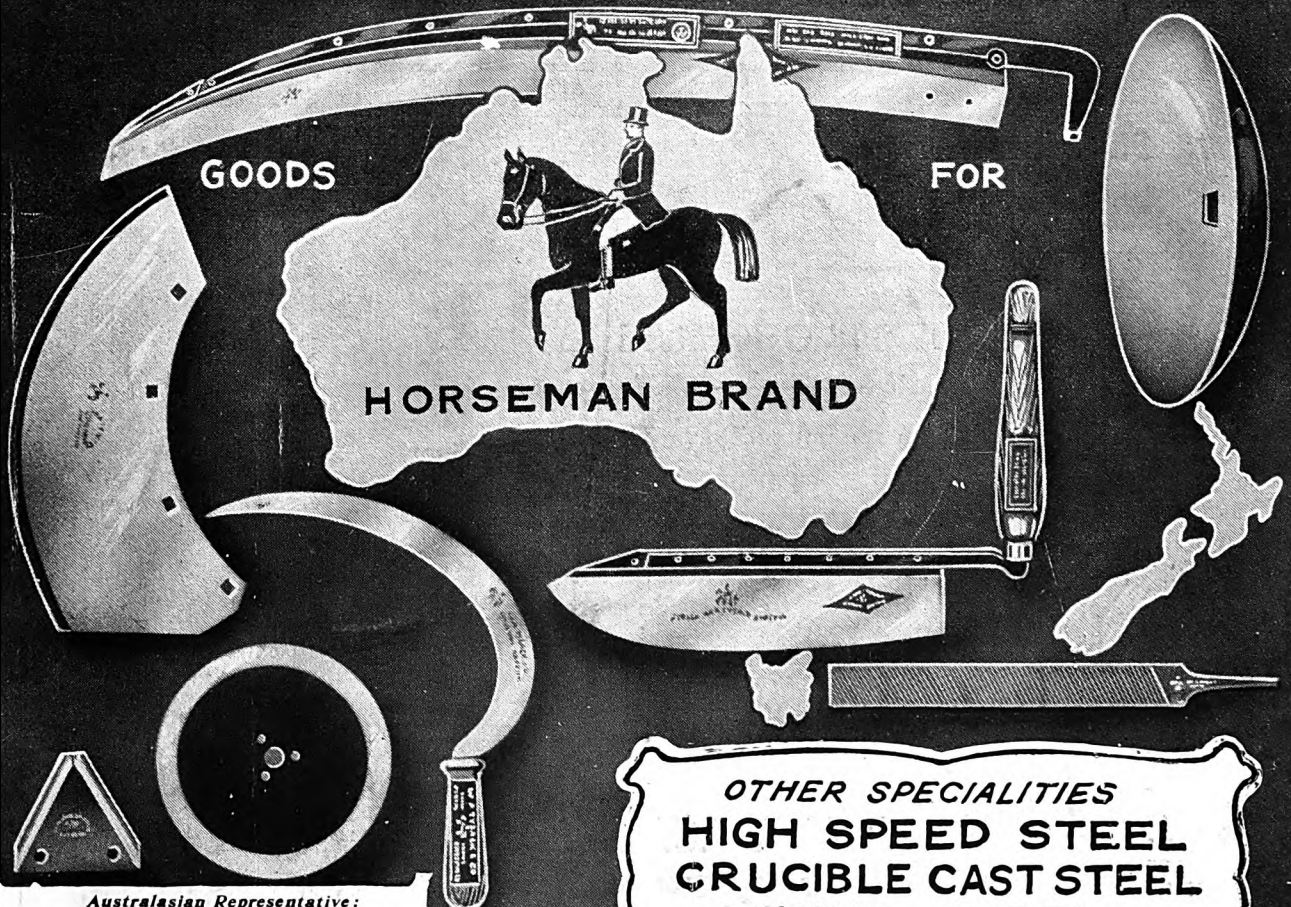
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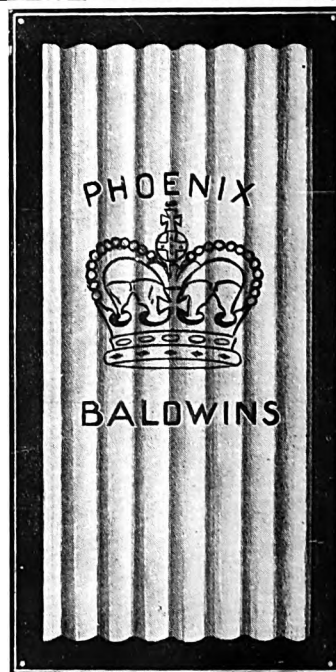
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Gas in Industry

By Basil Barham.

Manufacturers of to-day "think" gas when investigating possibilities of improvement in existing furnaces or obtaining new specifications. But there are still many applications of fuel which would be far more satisfactorily carried out with gas than by present methods.

So much was made evident by Mr. H. R. Hems, of the Birmingham Corporation Industrial Research Department, in a paper on "Town's Gas and Industry," at a district conference of the British Commercial Gas Association, held at Redditch not long ago.

Fuel costs, said Mr. Hems, should be considered conjointly with other important factors of capital cost of plant (with interest charges), labour costs, waste, transport of fuel, controllability and cleanliness. Taken together, these costs give an overall figure high in comparison with fuel cost alone.

Mr. Hems quoted a typical instance illustrating the help given by the gas industry in simplifying heat treatment processes. A firm requiring tools of special steel had obtained full details of a treatment which gave satisfactory results, and passed these details on to the Birmingham Gas Department for experiment and report. One sample of the steel was submitted to the firm's own treatment, involving packing in a box to prevent "oxidation," and exceptional care in handling.

The other sample was placed in a gas-sealed "muffle" furnace without any packing or other special treatment. The results of the two tests were identical. But the second method occupied less than half the time to carry out, in addition to requiring no special labour. Cost was also reduced considerably.

Mr. Hems gave it as his opinion that a man with average intelligence should be able to produce satisfactory results with gas on a production basis once a decision had been reached with regard to the exact treatment necessary.

It is only a few years since many engineers almost ridiculed the possibilities of town gas competing with coke and other fuel in industry, but to-day we can repeat the words of one of the pioneers in the use of gas for industrial purposes who said, "To-day he would be a bold man indeed who would define the limits of its penetration. The extent to which British industries, and therefore the nation at large, are under tribute to this great servant of the twentieth century is very much clearer now than it was even two brief years ago. Uses hitherto unknown have been discovered, uses hitherto regarded

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as impossible have been proved successful. Town's gas, of which we thought we had known the full story for many years, and the decline in the use of which has often been prophesied—that common and ordinary lighting, heating and cooking agent, delivered to us so simply through pipes into our homes and factories—has proved to be much more potent and far more serviceable than our familiarity with it allowed us to conceive."

Victorian Hardware Trade

It is understood that a conference will be held between the hardware employers and the Victorian Hardware Assistants' Union during the present month.

Foreign Exchanges

Foreign rates of exchange in London for cable transfer on the centres and dates indicated, compare as follows:—

Par.	—	—	July 23	July 26	July 30	Aug 2
4.886	New York	Dols to £	4.86½	4.85½	4.85½	4.85½
4.866	Montreal ..	Dols to £	4.87½	4.86½	4.85½	4.86
25.225	Paris	Fros to £	124.06	124.05	124.07	124.10
35.000	Brussels ..	Bels to £	34.90	34.90½	34.91	34.90
25.225	Rome	Lire to £	92.84	92.83	92.82	92.81
12.107	Amsterdam	Florin to £	12.08½	12.07	12.07½	12.08½
12.107	Batavia ..	Gul to £	12.10	12.10	12.09½	12.10
18.159	Stockholm	Kron to £	18.16	18.15½	18.15½	18.15
18.159	Oslo	Kron to £	18.19½	18.19½	18.19½	18.20
18.159	Copenhagen	Kron to £	18.19	18.19½	18.19½	18.19
20.43	Berlin	Gmks to £	20.36½	20.34	20.34½	20.35
24	Calcutta ..	Pen to rup	17½	17½	17½	17½
24.58	Yokohama	Pen to yen	22½	22½	22½	21½
*	Hongkong	Pen to dol	24½	24½	24½	24½

*Par depends on rise and fall in price of Silver.

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THE ORIGINAL COLD WATER KALSOMINE

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59-65 Elizabeth Street, Melbourne

Editorial

Race and the Nation

Blood or race and its influence upon human character and conduct is beginning to receive the attention that it deserves. Hard facts are compelling men to look into these things with a new interest, and the drawing out of the results should be all to the good. Why, in recent years, has the United States of America closed or partially closed her doors to white immigration? Not chiefly because she was receiving too many people, but because they were not of the right kind. Time was when she could afford to let Europeans flow in practically unchecked, because the newcomers were nearly all kinsmen, blood relations of the "pilgrim fathers" and other early colonists who carried the morals of Milton and the speech of Shakespeare to their new home in the West. These were welcome, not only because they were enterprising, but because they were adaptable. They made good citizens. But the flow of Nordics dwindled and other strains began to press for admission. Healthy organism though she be, the Great Republic has been unable to assimilate some of these others. In her, they are not of her. Alien in thought and feeling, they live their own life and speak their own language. They are not "good mixers" and recognising this, America has reviewed her position in the matter.

In Great Britain, too, the facts of the situation are provoking thought and influencing policy. "The Alien Menace" by Lieut-Col. A. H. Lane, is an evidence of this. It challenges as weak and misguided the easy-going British tolerance of the stranger and foreigner. The writer has made a special study of the whole question, and adduces facts in support of his view that the alien constitutes a menace to British institutions and the life of the British people. At a time when so many of her own workers cannot find employment and have to live on the "dole" Great Britain allows foreigners a monopoly of certain callings and suffers their competition in many others. The economic is not the only or even the most serious objection to these invaders. They are objectionable every way, some of them at any rate—physically, morally and politically as well as economically. "The off-scourings of the Continent" Colonel Lane does not hesitate to call them. Their codes and standards are un-British, and their presence and practices injurious to the body politic. Many of them are active in setting class against class, and fomenting industrial strife throughout the country. Socialist

"schools" promoted by these aliens are poisoning the minds of children. It appears that no alien who calls himself a Russian can be deported to that country unless he signs a declaration of allegiance to the Soviet regime, and cases are cited where men who knowingly had been propagandists for Soviet Russia refused to sign such a document, and so were left in Great Britain to continue the good work! An abuse of international hospitality and a confession of weakness which leaves one gasping. No wonder the author suggests that if they cannot be dumped on their own shores such vermin should be taken to a place like St. Helena and left there.

The following paragraph may be quoted as it stands:—"So soon as we curtail the privileges we have granted with almost crass stupidity to the alien just then shall we commence the cure of our own difficulties and proceed with our own national work. Otherwise Britain and the British Empire is undone, and will come to ruin, in spite of spurts of 'progress' and the incidental occasional successes of loyalists. For the alien, rendered secure by our excess of hospitality and freedom, not only undermines our social life in the home-country, but he and his kind spend their ill-gotten gains in our Dominions and in countries where British prestige still holds good, on a definite policy of belittling all things British, of rousing up an anti-British feeling, and of fomenting antagonism and opposition to the work we are doing in other lands. At any time we may be embroiled in wars and civil troubles in many places, and all by reason of our tenderness with the alien in our midst."

Prospects of Peace in Industry

Satisfaction may be expressed that the All-Australian Trade Union Congress has accepted the invitation of the Associated Chambers of Manufacturers of Australia to become a party to an industrial peace conference. In the light of recent events we can sympathise with those who wonder whether the overtures have been accepted in all sincerity, whether there may not be a veiled desire to evade unwelcome legislation by independent bargaining with employers. But putting that aside, we welcome the prospect of a conference and trust the good sense of those chosen from the employers' side to avoid any encroachment upon legal preserves and make the best of the opportunity. The need of the time is peace in industry—that should be apparent to all—and this "getting together" should be productive of good, and of good only. It will be if men meet in a reasonable spirit. But there's the rub. Too often the delegates chosen in such cases are the safe or strong men, the men who can be trusted to "stand up" for the rights of their own side or class. Such men may wreck any conference. Mutual consideration and concession are called for at a time like this, a frank disclosure of the position and facing of all the facts. A few years ago we discussed with the head of a large firm the question of the demands of labour and were impressed with the sympathy and sanity of

his attitude. Pointing to the fact that a large proportion of Australian working men own the homes in which they live, he expressed the opinion that they would not lend themselves to revolutionary or socialistic schemes and went on to say: "We employers may have to do with something less." That employer is dead, alas; but many remain, we believe, who share his spirit, men who look beyond their own things to the things of others and are prepared to find accommodation even at loss to themselves.

The benefits accruing from such conferences in Great Britain should have a stimulating effect upon us here. All the evidence goes to show that, approached in a frank and reasonable way, the British workman is as reasonably responsive. We even hear of railway employees accepting lower wages because the facts placed before them showed that the "industry" could not go on paying the old rates. That is as it should be so long as the "cut" is not too great and the disabilities are being shared by all concerned. It appears also—although it may be impossible to judge at this distance—that the leaders of labour in the Old Land are more reasonable and less class-conscious than they are with us. Nearer to Continental Europe with its cheaper production in capitalist Germany and its socialistic experiment in Russia, they are more alive to facts and their counsels, generally speaking, are towards moderation and peace. Their feet are on the solid earth, whereas too many of our leaders live up in the clouds of theoretic idealism.

But even in Australia there are some indications of a saner view and a better state of feeling. Mr. T. Walsh, for many years the militant leader of the Seamen's Union, has publicly renounced his feeling for socialism and belief in class war. "The last ten years have been the most fruitful period of my life, because, not only was I in a position where it was expected of me that I bring about some great improvement in the conditions of the seamen on the Australian coast, but I was also in a place where I could test the efficacy of direct action, and was able to discover for myself the relative importance of the workers' and the employers' place in industry. I was also where I could realise the limitations of my fellow workers when confronted with practical solutions; economics in theory and economics in practice are very different. That is the lesson I was learning in a small way in Australia, and which the Russians, leaders of the party I had belonged to the greater part of my life, were learning in a catastrophic way in Russia. I came to the conclusion that the capitalists and employers perform an essential part in industry to-day and the power to accumulate private property by individuals is fundamentally necessary to any conceivable civilised industrial system. The Russians have discovered the same thing, but there are differences between us. I hold that if capitalists, managers, experts, and workmen are compelled to co-operate industrially, then they must co-operate socially. The Russians, on the contrary, while depending on those with directive ability to maintain

the existence of industry and the nation, relegate them to the position of helots, and maintain that only the working class shall have the right to a decent existence. They have done just what they accuse the capitalists of doing, only with much greater ruthlessness. Communism to-day is not the socialism which was the beacon light of our younger days. That may have been a dream, but it was a glorious dream; communism in Russia means that all classes shall toil as in a prison house, without hope of advancement, for the benefit of a dictatorship composed of a specially selected few, who theoretically own and control everything. The extraordinary popularity of the Bolsheviks among those who do not know them is due to the fact that they are supposed to stand for the working class and for peace, fraternity, and equality, and their bluff is so colossal that it takes in a considerable number of the workers. It is for their sake I desire to state the true position." If a man of Mr. Walsh's capacity and influence sets himself to reconcile instead of embitter, he may do much to promote peace and progress in the industrial realm.

What Do You Really Want?

(American Paper)

When Bill Heaton, fresh from college, entered the employ of a large manufacturing company, he took with him not only the good wishes but the confident expectations of a host of friends. Their prediction was:

"Bill will do well. He has brains and he has personality. He will go ahead fast."

Up to a certain point Bill Heaton did make good. Then, to his disgust, promotion began to lag. He saw men he regarded as his inferiors in intelligence given executive posts while he remained a salesman—adequately paid, to be sure, but distinctly not progressing.

The company, Bill angrily told himself, was playing favourites. He sought and obtained work with another concern. It was the same story, and still the same when he made a third change. One day, swallowing his pride, he took counsel with a candid friend.

"It's very simple," the friend advised him. "The whole trouble, Bill, is that you merely think you want to progress, whereas you really want something else."

"What you really want—and what your earnings enable you to have—are golf and the theatre and bridge and an automobile, a generally easy and comfortable existence."

"These are the things that claim all your leisure, showing that they are the things you really want."

"It isn't too late to change your wanting. Do that, and it won't be long before you have less reason to pity yourself for the way you are held back by the men you work for."

Bill, being sensible enough to act on the hint thus bluntly given, events soon justified its soundness.

No end of men need only act on a similar hint in order to progress amazingly.

The business world, to put it plainly, abounds in workers whose failure to achieve is owing almost entirely to their failure really to want to achieve. They have the intelligence, but their wanting is for things rather than for achievement.

Desire to achieve, real desire to achieve, breeds power to achieve if only because it holds one fast to study, planning, reflection and other mental activities that alone make achievement possible.

Inquiry Column

During the month we have supplied answers to the inquiries indicated below. Firms with whom we have not already communicated who hold any agency connection with the firms, or handle any of the lines mentioned in this section, are invited to furnish us with particulars so that our lists may be complete.

INFORMATION SUPPLIED

Bright Steel Bolts.—Names and addresses of manufacturers in Melbourne supplied.

Cast-Iron Camp Ovens.—Name and address of Australian manufacturers supplied.

"Duco" Spring Washers.—Name and address of firm holding stocks supplied.

"Eurekos" Spring Washers.—Name and address of agents supplied.

"Evastrong" Glassware.—Name and address of manufacturers supplied.

Gas Bath Heaters.—Names and addresses of firms in Melbourne holding stocks supplied.

John Terry, 7 Great Winchester-street, London, E.C.2.—Name and address of agent supplied.

"None Better" Wrench Sets for motor cars.—Name and address of agents supplied.

"Pantex" Clothes Pressing Machine.—Name and address of agents supplied.

"Rex" Self Heating Iron (methylated spirit).—Name and address of manufacturers supplied.

"Rolcut" Secateurs.—Name and address of agents supplied.

Charles Richards & Sons Ltd., Darlaston, England.—Name and address of agents supplied.

Semi-Rotary Pumps.—Names and addresses of firms in Melbourne holding stocks supplied.

Aug. Stenman, A.B., Eskilstuna, Sweden (steel hinges).—Name and address of agent supplied.

Vale & Bradnack, Walsall.—Name and address of agents supplied.

V.D.S. Enamelled Ware.—Name and address of agents supplied.

"Swan" Brand Aluminium Ware.—Name and address of agent supplied.

"Tower" Brand Aluminium Ware.—Name and address of agent supplied.

B.S.I.G. Malleable Pipe Fittings (German Manufacture).—Names and addresses of agents and Brisbane distributors supplied.

R. A. Lister & Co. Ltd., Gloucester, England (sheep shearing machines).—Name and address of Victorian agents supplied.

W. Schollhorn, New Haven, Conn., U.S.A. (Bernard's patent wire pliers).—Name and address of agents supplied.

"Stewart" Horse-Clipping Machine (The Chicago Flexible Shaft Co., Chicago).—Name and address of agents supplied.

Twist Drills of Sheffield manufacture for metals.—Names and addresses of manufacturers and agents supplied.

White Enamelled Baths and Clouds for same.—Names and addresses of firms in Melbourne holding stocks supplied.

Wolseley Sheep Shearing Machine Co. Ltd., Birmingham, England.—Name and address of agents supplied.

INFORMATION WANTED

American Gas Machine Co., Albert Lea, Minn., U.S.A.—Name and address of agent wanted.

"Climax" Bench Vices.—Name and address of agent wanted.

Cozens Tin Snips.—Name and address of agent wanted.

David Harper & Sons, Darlaston, England.—Name and address of agent wanted.

"La France" Blue.—Name and address of agents wanted.

McCaskey Register Co., Alliance, Ohio, U.S.A.—Name and address of agent wanted.

Morganite Sheet Packing.—Name and address of agent wanted.

Papsdorf, Germany (R.P. tools).—Name and address of agent wanted.

Parkinson Woodworking Vyce.—Name and address of agents wanted.

Sunshine Safety Lamp Co., Kansas City, Mo., U.S.A.—Name and address of agent wanted.

Vaughan's Chain Block.—Name and address of agent wanted.

Correspondence

Re British Income Tax.

To the Editor, "Hardware and Machinery."

Sir,—The Finance Bill now under discussion in the House of Commons does not include any changes regarding the Income Tax position of British taxpayers resident outside the United Kingdom except that provision is made for relief from double taxation in respect of British and Irish Free State tax.

It may be well, however, to remind your readers that exemption from tax may be claimed by residents abroad in respect of certain British Government securities. British subjects may also claim a proportionate relief in respect of income arising in the United Kingdom, but the calculations in this latter case are somewhat intricate.

The question of visiting the United Kingdom is one which often raises difficulties. A person normally resident abroad may become liable to British taxation as a resident in the United Kingdom if the aggregate total period of his visits to the United Kingdom in any one financial year (i.e., from April 6 to the following April 5), exceeds six months. Assessments will then be raised on Foreign and Colonial income on the basis either of the income accruing in the previous year, or on the income remitted or brought into the United Kingdom by the visitor.

British Income Tax payable by residents out of the United Kingdom is a subject full of complexity and one which requires very careful attention in order that satisfactory settlements may be secured.

Yours, etc.,

W. R. FAIRBROTHER,

Income Tax Specialist.

67-68, Cheapside, London, E.C.2,

June 8, 1928.

Sundry Credits

By J. Knibb.

About four miles out of Robertstown, in South Australia, an elderly man had camped in an old hut for the past 15 years—off and on. No one knew his name, but from his occupation he was called

Scissors to Grind!

"the old scissors grinder." Sharpening scissors and other tools was the business on which he travelled all over the district. Of surly disposition he seldom spoke to anybody, but sympathy was not withheld on that account. He got work to do. Recently during wet weather some friendly person called at the hut and found the dead body of the old man on the floor. Examination by the police revealed nothing to show who he was, but about £200 in notes and silver was discovered in the much-patched clothes which he wore.

How deep is the ocean? It used to be said that five miles was the maximum. But that was yesterday, when hydrographers were measuring with a lead attached to a long wire, a method that had its difficulties and its limitations. Today, however, or within the last three years to be exact, an echo-sounding apparatus, which it is said will plumb any depth of water with absolute accuracy, is being employed. By this means soundings of from seven to eight miles have already been recorded. These are in the Eastern Archipelago, which goes higher up, as well as lower down, than any other part of the globe. As Mount Everest rises about five and a half miles above the sea level it will be seen that the deepest ocean cavities would submerge the loftiest land eminence and have a few miles of water to spare.

Ocean Depths.

My readers know, or ought to know, that any and every change in the proprietary or location of a firm has to be registered officially as well as the firm itself. And within reasonable time of the change, too, if trouble is to be avoided. In a published list of such registrations my eye was arrested recently by one particular entry, probably because I happen to know the firm concerned. Merely disguising the name, I shall transcribe as it stood the pertinent part of this announcement. "On August 21, 1920, John Smith retired by death." Nearly eight years ago, and not a firm of ironmongers, mind you, but of lawyers! That's the cream of the joke. I wonder what explanation the survivors had to offer and just how they got out of it.

The Law's Delay.

How rigidly old indentures of apprenticeship bound both parties! Each entered into a strict covenant, the apprentice to serve, the master to instruct. The moral conduct of the former was also covered by the agreement. A Melbourne daily paper recently printed the text of an eighty-five years' old indenture, an indenture covering a period of seven long years. "During which term the said apprentice his master faithfully shall serve, his secrets keep, his lawful commandments everywhere gladly do. He shall do no damage to his said master, or see it be done by others; but that he, to his power, shall let or forthwith give warning to his said master of the same. He shall not waste the goods of his said master nor lend them unlawfully to any." As will appear, the word "let" is used in its original meaning of prevent. "Let or hindrance," once a familiar form of words, is still used occasionally.

Old Indentures.

The old "Edina" is a wonder. That's what people say on the Melbourne shipping front. With reason, too. Built on the Clyde 74 years ago, this little steamer is still in commission. She has been in Australia for most of her life, since 1864 to be exact, and after travelling further afield settled down to the "bay" trip between Melbourne and Geelong. Up to the present she has worn out two sets of engines and three sets of boilers, but her plates are quite good. The other week at the entrance to the River Yarra she rammed and sank the tug "Hovell" and after standing by to see if anything could be done for her victim went on her way as if nothing had happened. This is the fourth collision in which she has been involved since 1898, and in each case the other vessel went to the bottom.

A Naval Wonder.

Although the art of tinning plate iron goes back to the beginning of the sixteenth century and had its origin in Bohemia, the rolling of plates for such purposes is British and exactly two hundred years old. Before 1728, when the rolling method was hit upon at Pontypool, in South Wales, such plates had been beaten out with tilt hammers, a very slow and labourious process, and one that did not produce the smooth plates obtained by rolling. Formerly the plates were of iron, but to-day mild steel is used almost exclusively for this purpose. The tinning is a rather elaborate process calling for care and skill. Tinplates we name the result, although were we more exact in our speech we would call them tinned plates. For that is really what they are, steel plates with a coating of tin, a coat obtained by dipping.

Tin or Tinned?

Tin itself, or one of its ores, must have been known from a very early time, as all ancient bronze objects contain a certain proportion of this metal. It must have been smelted before the Christian era, or more than 2000 years ago. Cornish tin is mentioned by the elder Pliny, who was born in 23 A.D., and died in the eruption of Vesuvius 56 years later. After the conquest of Britain by Rome, it was taken to Italy through France, or Gaul, as the country was then designated. Although not what it once was, Cornwall is still an important producer. To-day the Federated Malay States and Bolivia are the chief sources of supply. Two islands of the Dutch East Indies, Banka and Billeton, also produce considerable quantities, these, like the Malay workings, being alluvial, whereas Bolivian tin comes largely from veins. Of the Commonwealth States, Tasmania is the richest in workable deposits of this metal.

This is what I find in a certain Australian paper which shall be nameless:—"We send away raw material to the value of millions sterling and import it in manufactured forms, paying for it in borrowed money." I have been trying to analyse this remarkable sentence. The second "it" cannot refer to raw material, for that is already our own. So far good. But if it refers to manufactured articles it follows, surely, that we pay for these twice, first in raw material and second in money borrowed from some of those to whom this raw material is sent. It is many years since I read Marryat's "Midshipman Easy," but I have not forgotten the triangular duel reported in it, where each of the three disputants shot at one of the others and was shot at by one of the others. Each man was at the same time shooter and target, once and no more. However unusual, or even ridiculous, that was an understandable proposition. But this one leaves me guessing.

How Readest Thou?

Novelties and New Samples

Nail of New Shape.

An American company have been formed to produce a new type of nail designed by Mr. H. S. Stronach. Having a triangular point, the new nail is said to prevent wood splitting, because the point has a smaller area than the cross section of the shank.

The inventor is the sales manager of the Stronach Nail Co., whose plant is at Elwood City, Pa. Before long the company expect to have one hundred special machines at work producing this new form of nail.

Vacuum Flasks.

Arkell & Douglas, Inc., of Leitch House, 127 York-street, Sydney, have received from Landers, Frary & Clark, New Britain, Conn., U.S.A., samples of two new Universal vacuum outfits in pint and quart sizes. A reduction has been made in the price of the flasks, and they can be retailed at a low figure. They are fitted with a high grade Universal filler and patented shock absorber. The interior finish is good. Made in two colours, peacock blue and cardinal red, the assortments contain an equal number of each colour, there being six of the quart size and a dozen of the pint size in each lot. There is also a wide range of vacuum jugs and carafes in various finishes.

Sheffield Cutlery

Mr. A. E. Bridgen, of 279 Clarence-street, Sydney, has opened up fresh samples of stainless cutlery from Edwin Blyde & Co., of Sheffield. The use of grape fruit both in England and Australia is coming more into vogue and to meet the demand, these manufacturers have made available scoops and knives in varied styles. Among other samples shown are steel cheese servers, as well as lemon, tomato, cucumber and cheese knives. Bread knives, with serrated edges, are made of fine steel, and have a deeper and broader blade than other styles. Pen and pocket knives are in varied assortment, and apple corers, oyster knives and grape fruit corers are included in the display.

Covering Compositions.

Walter A. Cox Ltd., of 195 Clarence-street, Sydney, are showing samples of "Ferrogene," an improved paint made by Burrell & Co. Ltd., of London. This product comes ready for use and is prepared specially to protect exposed ironwork, such as galvanised iron, railings and bridge work. It has remarkable gripping and lasting qualities under extreme atmospheric conditions, being specially recommended for use in hot climates and where strong sea air is deleterious to ordinary paint. It is made in three colours, red, grey and green.

Another product of the same manufacturers is "Dodo," an air, or slow drying enamel which is applied as easily as paint, but is stated to be more durable. A further point in its favour is that it brushes freely and can be used for interior and exterior work; also for yachts and steamers, as it will withstand the action of salt water and will not crack or blister.

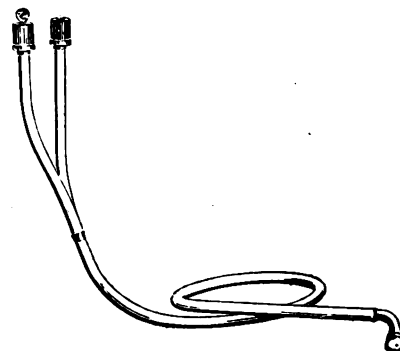
Coloured Kitchen Utensils

At 352 Kent-street, Sydney, Mr. Edawrd G. Vaughan has four distinct displays comprising whole ranges of kitchen utensils and accessories, from the

works of the Washburn Co., Worcester, Mass., U.S.A. In some instances the bodies but more generally the handles are finished in coloured enamel in olive green, crimson red, delf blue and yellow. Accompanying these are colour display cards, in futuristic effect, to contain six or more articles, the idea being to suggest colour schemes for the kitchen as in other sections of the home. This innovation should be acceptable to hardware stores for making more attractive window displays, as well as to the women folk, since no extra cost is entailed. Appropriate to this it will be noted that kitchen enamelled ware has long since departed from the former steel grey to browns, greens and blues, and lately we have seen a number of gas stoves and ice chests with their frames finished in similar colours to the kitchen accessories above mentioned.

Shower-Bath Sprayer.

For use in place of the ordinary shower rose and for other purposes, Cutbill, King & Co. Ltd., of 32 St. Mary Axe, London, E.C.3, offer the "Economic" patent adjustable shower-bath sprayer for private homes and public institutions. It consumes about one tenth only of the water which passes through the shower rose and is corresponding easier in fuel consumption where the water is heated. At the same time it is a real and effective spray—not a series of jets—a spray that can be adjusted to suit individual requirements.



Two types are available, "C," giving a fine and "D," a comparatively coarse spray, the one passing approximately half a gallon and the other a full gallon of water per minute. Different sizes and finishes are offered, and those either for overhead fixture or with lengths of rubber hose for attaching to bath or lavatory taps. We illustrate one of the latter. With or without the hose the outfit may be used for car washing, garden watering, insecticide spraying and other purposes.

For Painters and Wireless Dealers.

Nelson & Co. Ltd., of Broughton House, 47 King-street, Sydney, have been appointed New South Wales representatives for N. V. Associatie Voor Overzee Handel "Lithos," The Hague, Holland, manufacturers of lithopone, zinc oxide and other compounds. Marketed under the brand "Red Seal 30 per cent." lithopone is a composition of 70 per cent. barium sulphate and 30 per cent. zinc sulphide. Being an intimate mixture of these two compounds it is highly suitable as a pigment. Its

covering capacity is said to exceed that of white lead, and as it is innocuous it can be used with perfect safety. Besides being used for making all sorts of water, oil paints and distempers it can also be adapted as a filler for rubber goods, linoleums, oilcloth and paper.

On behalf of Attifabriken, Stockholm, Sweden, is a comprehensive range of samples of Isolit (Bakelite wares) of interest to those in the wireless industry. The collection includes tubes and mouldings, dials, knobs, air-insulated coil-holders, anti-microphonic valve holders, plugs, anti-hygroscopic insulators and also various sized sheets.

A Varied Display

At Danks' Building, 324 Pitt-street, Sydney, Mr. Louis A. Scott, is showing a complete range of aluminium, kitchen and other goods from Napper & Co., of Birmingham. Tea pots in a large number of sizes and shapes are particularly featured with erinoid handles in red, mauve, yellow and blue; also cane covered and black compo handles. Stew pans are offered with either tin plated tubular or coppered bronze handles, and fish frying pans with baskets are shown in three different sizes. These manufacturers also specialise in stamped metal enamelled finish bathroom fittings of every description.

From the John Russell Cutlery Co. of Turners Falls, Mass., U.S.A., Mr. Scott has received a liberal number of stamped metal display stands to hold four butchers' knives. These are nicely finished in green enamel and suitably inscribed for attracting sales. He will be pleased to dispatch one or more of these to retailers on application. From the same firm come two new sheath knives, one reviving the old well known "Green River" pattern, while the other is commonly known as the "Bushman's Friend."

On behalf of the French Wreath Co., London, is introduced coloured floral wreaths carried out in a process registered as "Enamelaine." These flowers are practically indestructible and fadeless, and can be used without glass domes as they are impervious to all weather conditions.

As sub-agent in New South Wales and New Zealand for Horn & Co., Bank House, Melbourne, Mr. Scott now carries samples from several German and other Continental manufacturers. The range comprises padlocks, grinders, hand and breast drills, automatic screw drivers, braces and bits and other tools, vacuum flasks, aluminium tea pots, household balances and a number of fancy goods and stationers lines.

Birmingham Household Goods

Mr. P. Clifton Jones, Australia House, 52 Carlington-street, Sydney, has lately received an extensive range of new samples from Thompson Bros., Tower-street, Birmingham. First may be mentioned complete lines of "Chieftain" brand aluminium ware with regard to which the manufacturers have increased the discounts from the 1928 list, consequent upon the increased duty lately placed upon such articles.

A specialty is made of teapots with cane, jet compo or red erinoid handles in six different shapes. The erinoid handles are supplied either round or square cut with lid knobs to match and each teapot is supplied singly boxed. Light kettles come in several styles with enamelled tube and ebonised grip handles, the latter being secured with rod and brass knobs, and included here is the "Express" or "Quick Boiler" in four-pint size. Improved covers and sliding clips are now furnished to pudding basins and the "Wilwarm" covers in four sizes are so constructed that, when filled with hot water, food will be kept hot for a considerable time, or in hot

weather cold water may be used to keep food cool. These lines are highly polished, fitted with N.P. screw stoppers and are quoted at particularly low prices.

A fine line of bronze handled stew pans No. 78K is shown in sets of four or five with mirror polished interiors and exteriors. They are made from 16 gauge metal and fitted with "Kumfy" handles. A similar line is shown in 14 gauge metal. Also from these manufacturers is a long list of "Chieftain" brand bathroom accessories in porcelain white on aluminium, or polished aluminium. "Digby" outfits comprising towel rail with ball brackets, plate glass shelf and brackets, toilet paper and tooth brush holders respectively, tumbler ring and three coat or towel hooks, with rustless screws for all pieces, are contained in a neat box, but when desired any of the lines may be ordered separately. Single, double and treble swing towel arms, bathroom cabinets enamelled white on steel, with plate glass shelves and either plain or bevelled mirror doors in both square and corner styles, should appeal to buyers as the qualities are good and prices very moderate. Likewise a new bath seat with cork top and rubber cover hook-on arms. A soiled linen bin with strong cork lid seat lettered "Linen" in front; also bathroom stools in wood and metal with cork seats, and cork mats, are comprised in this section.

Another specialty of this firm is the "Renown" rotary knife sharpener constructed for use with stainless or other knives and giving a smooth keen edge. This line virtually comes in a series of slightly modified styles. The four disc cutters revolve freely inside a neat nickel plated and brass dome case with all parts detachable; each sharpener bears the makers' guarantee for ten years' service. They are fitted with either polished black hardwood handles or grained xylonite, and are mounted on jet black wooden base, while another line with nickel silver handles has a plinth base. All are supplied boxed singly.

Similar ranges of samples are now being exhibited at the agent's branch showrooms, Arco House, Melbourne, and Bower Building, Adelaide.

Your Legacy !

Found in the pocket of a ragged old coat that belonged to one of the insane patients in the Chicago poorhouse was a will, part of which read:—

Item: I give to good fathers and mothers, in trust for their children, all good little words of praise and encouragement, and all quaint pet names and endearments.

Item: I leave to children inclusively, but only for the term of their childhood, all and every one of the flowers of the fields and the blossoms of the woods, with the right to play among them freely.

Item: I devise to boys, jointly, all the useful idle fields and commons where ball may be played, all pleasant waters where one may swim, all snow-clad hills where one may coast.

Item: To lovers I devise their imaginary world, with whatever they may need. . . .

Item: To young men jointly, I devise and bequeath all the boisterous, inspiring sports of rivalry. . . .

Item: And to those no longer children or youths or lovers, I leave memory. . . .

Item: To our loved ones with snow crowns, I bequeath the happiness of old age, the love and gratitude of their children until they fall asleep.

And was he so poor and insane? Did he not live in a world which was richer than that in which we move about freely? To each of us he bequeathed something: let us not bury our talent.

Pottery and Glassware

British Dishes and American Lamps

Mr. Louis A. Scott, Danks Building, 324 Pitt-street, Sydney, has received from Morley Fox & Co. Ltd., Fenton, Stoke-on-Trent, new designs in plates for all services, and cover dishes. The former are octagonal in shape and are shown with various decorations prominent among which is a registered design introducing the scarlet pimpernel which flower is tastefully arranged and produced in natural colour. The dish covers, of distinctive shape known as "Duchess," are made with a plate-like rim with cut out handles, the rim being litho decorated in different floral and conventional designs. These manufacturers' products are notable for their excellent body and glazing. They also introduce new decorations in nursery ware comprising the Mother Goose series which is featured on cups and saucers, plates, porridges and nursery toilet ware.

An innovation of the United States Glass Co., Pittsburgh, Pa., U.S.A., is glass table lamps in the new rose pink shade which are moderately priced.

Two Longton Firms

Mr. A. E. Brigden, of 279 Clarence-street, Sydney, has received a new range of samples of "Melba" English bone china from Mayer & Sherratt, of Longton, Staffs. The lines shown include decorated tea and breakfast services, morning and coffee sets as well as patterns in prints and enamels of the heavier type. Special mention should be made of the Canadian pattern, the sizes ranging from coffee to dinner sets, a gold edge being the only decoration, yet this, with the flange shape cups, makes an unusual and rather attractive departure from the usual white and gold patterns. The "Clarence" is of similar shape, but instead of the single gold edge has three gold bands. A wide selection is offered in the Crown Derby style dinner and tea sets. One set has cups of the tall daisy shape, with gold edges and gold handles, the bodies being in various shades. While there are great variety of shapes and patterns the windmill decorations make a striking display. Another pattern that calls for remark has spring-time decorations, in art shapes. Fruit and supper sets and coffee sets are on hand in all latest styles.

Toiletware and earthenware vases suffered an eclipse immediately after the war, but they are coming into their own again, and to meet the demand the British Anchor Pottery Co. Ltd., of Longton, have sent some very fine samples. New shapes and styles have been made, and the decorations are in good taste.

Crystal Glass From Webb & Corbett.

W. G. South & Cowan Ltd., of 352 Kent-street, Sydney, have uncovered new samples of crystal glassware on behalf of Thomas Webb & Corbett Ltd. These include vases, rose bowls, salad bowls, water sets and goblet sets in new shapes and designs, all of which are very moderately priced, although they are heavy articles deeply cut and exceptionally fine in colour. Dainty in appearance are small rose bowls of new shapes and carrying glass centres. Very striking are the pieces enriched with medallions in delicately tinted blue and amber, a general range being covered. Those in amber are particularly smart, the tones being softer than those of the blue.

New shapes and styles are shown in sugars and creams, and tomato sauce bottles with wide open

mantles are a feature. Now that the use of grape fruit is coming more into favour in this country the makers have arranged to meet the demand for suites and these are available in squat designs, as well as with long and short stems. A new departure is made in the way of egg cups fitted with saucer feet. Black coffee cups and saucers are shown in new designs, while biscuit barrels assume new shapes. A big assortment of wine glasses make an attractive feature, and the stirrup tumblers not only embody a new idea but are very graceful, the sizes ranging from cocktails to water tumblers. Barrel tumblers are of unusual shape and design. Punch bowls are very deeply cut and finely etched, while whisky decanters are very appropriately set off with stoppers in the form of Scotch thistles.

British and Belgian.

T. W. Heath & Co. Ltd., of Burleigh House, 232 Clarence-street, Sydney, have received fresh samples of pottery from Burgess & Leigh Ltd., including a quantity of the new crescent shaped supper sets. The "Merrie England" series should become popular, showing as they do old English rural and city scenes by artists of note. Standard quality tea sets in Crown Derby style with the popular square plates are shown in a very wide range of patterns, one particular make having an oblong sandwich tray, which can be used with the tea set, thus making a combination tea and supper set.

The Shelly china includes tea sets in the popular Queen Anne shape, with square plates. Some of the decorations are very well done, this description being particularly applicable to a dinner and tea service with a sunset for the theme, the blending of the delicate shades being artistically done. For children's use what is known as the "playtime series" make a strong appeal. The seaside pattern is a favourite this season, the pictures being by Miss Hilda Cowhan, a well-known English artist. Sugars and creams, as well as tea pots, plates and saucers, all of which are the requisite size for practical use are included in the lines available.

A good assortment of fruit ware, including tea and supper sets has been unpacked from the Royal Worcester Porcelain Co. Ltd., hand painted fruit, very real looking, being used to decorate the solid burnished gold bodies, the inside of the cups also being done in solid gold, the process ensuring that the metal will not wear off. This ware is marked at high prices, and although private buyers are found sales are mostly for presentation purposes.

The foregoing as well as some beautiful plaques were selected by Mr. D. Heath when in England. One plaque has a border of deep blue and raised gold, the body being decorated with a beautiful gold pattern. An old English country scene makes a very fine picture, the lights and shades being so realistic. "The old sundial at Claremont" shows an old fashioned flower garden with the dial in the centre, and here again we have a beautiful piece of work. A basket of flowers, the minutest details being well brought out, decorates the centre of one plaque, the remainder being richly embellished with gold scrolls and powder blue.

In the glassware section a consignment from Val St. Lambert, Belgium, is particularly striking, liqueurs, cocktails and wine glasses were seen six in a case and each glass of a different colour. The crystal is of a very high quality, heavily cut, the colours flashed with the crystal giving a beautiful setting to the whole. Vases and water sets in colours and crystal made a very strong appeal.

The Richardson (Stourbridge) crystal includes new shapes and designs in rose bowls, vases, footed sweets dishes, wine suites and so forth, including oblong sandwich trays in deep cuttings.

Publications Received

Pels' Punches.

A leaflet received from Henry Pels, of 32-40 Osna-burgh-street, London, N.W.1., illustrates three types of hand lever punches "that won't break." The net weight of these range from 33 to 120 lb. and the f.o.b. prices from £3/12/- to £7/2/-. Two forms of long bladed hand lever plate shears are also shown. These have guaranteed steel plate frames with 10 in. shear blades and give a big cut at each stroke.

Keith Fans.

In a booklet received from the Blackman Export Co. Ltd., air and gas engineers, of 374 Euston-road, London, N.W.1., Keith standard single inlet fans are fully described. Illustrations are given of different forms and applications, while capacities and other particulars are tabulated at some length. A separate leaflet deals with Keith gas compressors and soldering equipment and another lists the Blackman streamline "tube construction" fans, also made by the issuing firm.

Printing House Calendar.

As in previous years, and covering a similar period—July to June—Mr. W. A. Hamer has issued a bold wall calendar for the current twelve months. A foot long by a little less in width, the monthly sheets are distinctly lettered in black, and when the month ends the sheet is removed and folded to prolong its life as a blotter. The "frontispiece" is a fine picture of a tiger cub "growing up."

Mr. Hamer, who prints this journal, is now in occupation of roomier premises at 205-17 Peel-street, Melbourne, N.1.

Industrial Lighting.

The Benjamin Electric Ltd., of Brantwood Works, Tottenham, London, N.17, lay themselves out to give manufacturing works the best possible results from their lighting connection. Free of charge they are prepared to provide any such works with a detailed statement of what should be done, relying, presumably, on the chance of having the work of reorganisation or installation (if the factory or connection is new) entrusted to them. They are the proprietors of the "Biflector" for industrial and the "Bencolite" for commercial lighting. A leaflet is issued periodically in connection with this service.

A Big Selection.

In their export catalogue, No. 47, for 1928-29, Cooper, Pegler & Co. Ltd., of 24-26 Christopher-street, Finsbury Square, London, E.C.2, illustrate a great variety of fancy metal goods, electroplated and silverware, clocks and watches, leather and travelling goods, brushware, toilet sundries and what not. In each section various novelties are listed.

The issuing firm are merchants or warehousemen representing various manufacturers of repute. Their catalogue No. 46 is devoted to glass, china and earthenware.

Engineering Supplies

A fully illustrated catalogue of engineering supplies is that issued by the A. A. Phoenix Co., of

493-95 Collins-street, Melbourne, C.1. Jointings and packings, oils and greases, goods of rubber and goods of metal in a great variety of forms are listed, not only for mechanical engineering establishments, but for railways and shipping companies. Many of the lines shown represent agency connections, British and American. Among the illustrations is a portrait of the proprietor, Mr. Alfred Adams, who has been dealing in such goods for the past twenty-three years. A detailed index on the opening pages greatly facilitates reference.

Morris Cranes and Lifts.

Two booklets devoted to their lifting and shifting appliances have come into our hands recently from Herbert Morris Ltd., of Loughborough, England. One of these illustrates the Morris hand crane employed for a variety of purposes, indoors and outdoors. The other is devoted to Morris electric lifts for goods and passengers, the latter including automatic lifts for private residences and public buildings.

"We live by lifting" is the slogan of the firm, whose various machines and appliances are known in every market. Noyes Bros. (Melb.) Pty. Ltd., of 495-501 Bourke-street, Melbourne, with branches at Adelaide and Hobart, are the local agents.

Australian Statistics

The Commonwealth Statistician and Actuary (Mr. C. H. Wickens) has issued a pocket compendium of Australian Statistics. This publication is of vest-pocket size, about 4 x 3, and runs to 148 pages. Into that small compass, however, it is surprising how much information has been packed. Most of it is in tabular form, as was to be expected, but there are various lists and a chronological table from 1770 onward. The date mentioned indicates Captain Cook's first voyage to Australia. A detailed index on the opening pages is of much value in tracking down any desired particulars touching the life of the Commonwealth. With the larger Year Book in our possession we cannot say that the pocket summary has much appeal, but the Bureau of Census and Statistics evidently believes that it fills a want or serves a purpose, for this is the fourteenth issue of the little volume.

Australian Engineering Standards.

A sheaf of tentative Australian standard specifications is to hand since we last went to press from the Australian Commonwealth Engineering Standards Association. These cover totally enclosed air-break switches for voltages not exceeding 660 volts, drum controllers and resistances for use therewith for electric motors, face plate controllers and resistances for use therewith for electric motors, contactor controllers and resistances for use therewith for electric motors, drum starters for electric motors, electrical performance of large electric generators and motors (rating permitting overloads), electrical performance of large electric generators and motors (continuous maximum rating), multiple switch starters for electric motors, contactor starters for electric motors, china wood oil (tung oil), perilla oil and soya bean oil, varnishes (interior oil varnish, exterior oil varnish, flattening or rubbing oil varnish), zinc oxide dry and zinc oxide in oil (genuine zinc white), genuine red lead, dry, lithopone, inert fillers: barytes, blanc fixe, calcite whitening, kaolin and talc, and linseed oil putty.

The headquarters of the association are at Macleay House, 16 College-street, Sydney.

Personal and Social

Appointed Manager.

Mr. Norman Taylor was recently appointed manager of the explosives factory at Deer Park, Melbourne, of Nobel (Australasia) Ltd. He was previously assistant manager of the Nobel factory at Johannesburg, South Africa.

Belgian Firm's Representative

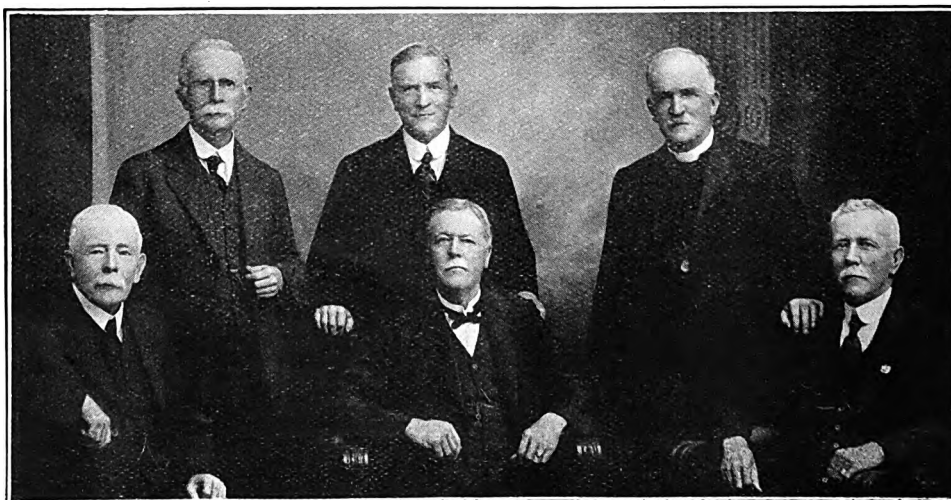
Mr. R. Lambert, personal representative of Mr. G. W. J. Blackman, of Charleroi, Belgium, is in Melbourne for about a month. His address will be care of Ryall & Brock, 360 Post Office-place, the local representatives. Later he goes on to Sydney, which will be his permanent headquarters.

Noteworthy Family Gathering.

On July 11, Mr. Frederick Crane, chairman of directors of G. E. Crane & Sons Ltd., hardware merchants and manufacturers, Sydney, was the guest of honour at a luncheon given by the directors

that time and consequently has been associated with the business for over sixty years.

In proposing the chief toast, Mr. Walter Crane, after extending the best wishes of those present to his brother on attaining his eightieth birthday, remarked that it had not fallen to the lot of many to reach such mature age, retain the position as head of a large progressive business and still enjoy good health and be able to participate in social activities. There were, said Mr. Crane, several older firms in the city of Sydney, but it had not come to his knowledge that any had enjoyed the close association of the chairman of directors for so long a period. After referring to the few holidays which his brother had taken during that long period, he mentioned that Mr. Henry and Mr. Alfred joined the firm in 1871 while he himself linked up in July, 1878. The speaker referred to the harmony and affection which had characterised their co-operation in the development of the business irrespective of whatever different viewpoints they sometimes had. He went on to refer to the important changes which had taken place during their career.



Seated (left to right).—Mr. Henry E. Crane (78); Mr. Frederick Crane (80); and Mr. Alfred Crane (74). Standing.—Mr. Walter G. Crane (72); Mr. Arthur H. Crane (68); and the Rev. Charles Crane (70).

of the company to celebrate his eightieth birthday. There were present Mr. Crane's five brothers namely: Henry E. and Alfred Crane, directors, and Walter G. Crane, managing director, of G. E. Crane & Sons Ltd., Arthur W. Crane, chairman of directors of Watson & Crane Ltd., and the Rev. Chas. Crane, B.A., Presbyterian Minister; together with the departmental managers of the company and a number of employees whose terms of service ranged from twenty to fifty years.

It is noteworthy that all six brothers are still in active work, although five have exceeded the three score and ten and that their lives aggregate 442 years, while including a sister in Queensland still living, the total of the family is 508 years.

The business of G. E. Crane & Sons was originally founded by the late Mr. Richard Wynne about the year 1856, and was purchased in March, 1868, by the late Mr. G. E. Crane, father of the present family. Mr. Frederick Crane joined his father at

Telephones and electricity were non-existent and he recalled how people were invited to come in and talk and listen when their first telephone was installed. He also remarked on the interest caused by the introduction of the type writer and other mechanical appliances now found in every city office. They had witnessed, too, the development of photography as associated with business and the displacement of wheel barrows and carts and horses by the newer methods of conveyance.

Pursuing the progress of the firm Mr. Crane said that it was formed into a limited liability company on January 1, 1908, since which time large premises had been erected in Harrington-street; also the Invicta Works at Glebe, and more recently large factory premises at Ross-street, Forest Lodge, and throughout the whole of this period his brother Fred had been chairman of directors.

The toast was ably supported by Mr. B. F. Dargan, general manager, and Mr. F. E. Stevens, finan-

cial manager of the company, and several others testifying to the ability of their honoured guest and the high esteem in which he was held by one and all connected with the business.

At the conclusion, Mr. Walter Crane presented his brother with a set of illustrated volumes.

In responding, Mr. Fred Crane said he was much overcome by the many kind expressions which had been made towards him. The function arranged in his honour had taken him by surprise, and it was most gratifying to realise the good fellowship which had always existed between his brothers and the staff.

House Dance.

The staff of the British General Electric Co. Ltd., 104 Clarence-street, Sydney, held a most successful dance on July 3 at the Wentworth Hotel. Including their friends there were present upwards of 170 couples. Mr. Edward Hirst, managing director, accompanied by Mrs. Hirst, Mr. W. R. Caithness, Mr. A. D. Stevenson, Mr. J. R. Gibson, director, and the secretary, Mr. T. E. Morgan, were among the principal guests.

Death of Mr. R. Tulloch.

Mr. Robert Tulloch, governing director of Tulloch's Phoenix Ironworks Ltd., Rhodes, N.S.W., died



Late Mr. R. Tulloch

at his residence in Thornleigh, on July 10, at the age of 77 years. The deceased was a native of the Orkney Islands, and was early apprenticed to the blacksmith and boiler making trades. Coming to Sydney fifty-one years ago he found employment as a boiler maker with the Atlas Engineering Co., remaining there for some six years, after which he started business on his own account at Pymont under the firm name of R. Tulloch & Co., and it is related that his only capital was a small kit of tools and the capacity for hard work. In those days pneumatic riveters were unknown,

riveting being done by hand and frequently he would start, with one mate, riveting from one side of a girder and complete his job, while two gangs executed the same work on the other side. The business developed to such an extent that R. Tulloch & Co. distributed some thousands of Colonial type boilers throughout the State before they were superseded by water tube boilers.

In 1910 the business was floated into a limited liability company under the present title of Tulloch's Phoenix Ironworks Ltd. and operations were extended to the supply of steel constructional work, bridge building, artesian boring plants and mining machinery. Notable examples of the company's work are railway bridges over the Nepean and Manning Rivers, and they also supplied all the steel work for the basement of Queen Victoria Buildings, Sydney. Progress continued until in 1915 the business at Pymont was transferred to Rhodes where extensive works had been erected. Of recent years the company have been largely engaged in the

manufacture of rolling stock and have supplied some thousands of trucks of various classes for the State Railways. In 1923 the manufacture of shovels was undertaken with such success that these are now used all over the Commonwealth.

The late Mr. Tulloch was a prominent Mason and an active member of the Highland Society besides being a member of the Royal Automobile Club, Press Club, Civic and Commercial Clubs and the Australian Jockey Club. He leaves a widow, four sons and one daughter. The esteem in which he was held was evidenced by the number attending the funeral.

Retired Manufacturer Dies.

Mr. Henry William Meggitt, who died at Parramatta, New South Wales, on June 3, was the founder of the business now carried on by Meggitt Ltd., linseed oil manufacturers. Begun in Sydney, the industry has since been extended to Melbourne and Adelaide. Mr. Meggitt, who retired from all active association with the business some time ago, was 74

Death of a Storekeeper.

Mr. Samuel Demack, whose death is reported from Bulimba, Queensland, was a native of Somerset, England, and eight-seven years of age. Coming to Queensland as a young man he found employment with a storekeeper at Gympie. Subsequently he purchased the business at Bulimba, which he had conducted ever since. He leaves a widow and family of three, two sons and a daughter. One of the sons is connected with the business.

How Can I Create Capital?

(From an American Trade Paper).

That is a question which is being asked by hundreds of ambitious young fellows. They feel the impulse to have their own business, but how can they command the necessary capital to start? To one who has not accumulated the capital and who has no prospect of inheriting any this question seems ominous.

"A penny saved is twopence earned," is the pith of any answer which can be given. In other words we must discipline ourselves so that we shall be willing to go without something to-day in order to enjoy a future good.

Savings banks, insurance companies, building and loan associations are all agencies created for our benefit to aid us in satisfying future need. Bankers are willing to advise us how to do certain things, but we must discipline ourselves and force ourselves to live up to the conditions which will give us what we must have to supply the future good we seek. Most of us must have the training involved in creating capital before we are fitted to handle a business on our own hook.

Is it a want or is it a need? There are a few fundamental needs that we must supply, but most of us could do with much less if we really had a consuming desire for future good. We fail of our goal only because we yield to present temptation to satisfy immediate wants. This is one of the jobs which each must do for himself if it is to be successfully done. First of all, save your time and energy by employing them fruitfully; next, save some money and invest it prudently; then focus your free thought on your definite goal, and nothing can keep you from gaining a worthy end. Facts are stubborn realities. You must learn to handle them in the interest of the future good you seek.

News from Abroad

New Nickel Alloy.

The research engineers of the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., U.S.A., have discovered a new nickel alloy, which, because of certain desirable electronic qualities, is proving of much value to the electrical industry. It has been given the name "hypernick" and enters into the construction of transformers and other types of electrical machinery.

Long Service.

At Selly Oak, Birmingham, Elliott's Metal Co. Ltd. recently entertained thirty-eight men drawn from their different departments who individually had served them for more than fifty years. Their ages ranged from 60 to 93. Three brothers—Alfred, Thomas and William Buggins—had put in an aggregate of 157 years' service. Each of the thirty-eight long-term employees was presented with a handsome E.P.N.S. tea service.

Mechanical Talker.

"Televox," a mechanical man invented by Mr. Roy J. Wensley, of the Westinghouse Electric & Manufacturing Co., is now able to talk. Previously, in response to telephone calls, he answered through a buzzer. Now he answers in a deep bass voice, and that either in English or in any other language that may be arranged. The name and number of the station and other pre-arranged answers may be obtained in this way. Not only can "Televox" answer a call within such limits, but it can also be used to originate a call.

Their Oldest Employee.

In its issue of June 8 "The Hardware Trade Journal" has a picture of Mr. William Smith, who has been in the employment of Joseph Rodgers & Sons Ltd., of Sheffield, for the long period of seventy-seven years, and is still actively engaged making penknives. The old man, who is eighty-eight years of age, is shown at work at his bench. On several occasions he has been presented to members of the Royal family, and when his eight-eighth birthday was reached the management gave him a silver cup suitably engraved.

Tin Kettle Making in China.

"The Chinese Economic Bulletin," an official publication, tells of certain industries carried on at Kuyung, in the Kiangsu Province, a little place "tucked up in the foot hills, near Nanking." There are seven or eight tinsmiths who make kettles and various kinds of cutlery. Among them is the Chen Yu Hsing, which employs about twenty hands, the rest employing only eight or nine each. Kuyung kettles are well known in other parts of the province, and visitors often take them back to their homes. They are made of tin, with a copper lining which is supposed to impart a uniform temperature. One shop turns out 6000-7000 kettles a year.

Iron Industry in Sweden.

No change for the better in the position of the Swedish iron industry can be discerned for 1927, says "The Swedish Economic Review" of February last. The export of pig-iron was certainly greater than in 1926, but in a large measure the export came from old stocks, and production declined.

As regards malleable half-products and rolled and wrought iron, the production figures differed but

slightly from those for 1926, nor did the export figures for these products show any considerable changes.

Pig-iron prices developed unfavourably, and exhibited an average fall of 10 per cent., but prices for other iron products were about the same as for 1926. Swedish high-quality steel has a somewhat better market, however, than other products of the Swedish ironworks, and prices are not so depressed.

The Port of Bristol.

The May number of "The Empire Mail" deals specially with the city and port of Bristol. With a population approaching 400,000 and many manufacturing industries, Bristol is now well-equipped to play her part as one of the great gateways of the West of England. Some eight millions of money have been spent on her dock system, the latest addition—the eastern arm of the Royal Edward Dock—having only been opened recently. The city is situated about six miles from the mouth of the River Avon at its junction with the Frome, and unlike Liverpool is very old. It has some fine old churches and other buildings, but its university is one of the modern foundations, dating from 1909. Regular lines of steamers connect the port with the outside world, carrying away galvanised iron, tinplates and other manufactured products and bringing back grain, meat and other goods. The city has a Lord Mayor, the present wearer of the chain being Councillor John Curle, J.P.

Two Hundred Years of Tinplate Manufacture.

The bicentenary of the British tinplate industry was marked by a luncheon given by Industrial Newspapers Ltd., at the Savoy Hotel, London, on April 26. Proposing "Tinplate and Allied Industries," Mr. John Howeson (Anglo-Oriental Trust) said that motor vehicles of every description, locomotives, machinery, printing and the many industries engaged in providing containers or wrappers for food and chemical products all needed tin, and they all used tinplate. "Tinplate," he said, "is a rapidly expanding industry. In five years the world's output has increased by over 20 per cent. Prior to the General Strike, the British output rose by 20 per cent. in two years, and it is gratifying to observe that the leeway which was lost in 1926 is now being made up. The production of tinplate in the United Kingdom stands substantially where it stood in 1925, and is once more advancing." Speaking of the mistaken belief that tinned food is lacking in nourishment, he said: "Recent investigations undertaken by a group of eminent scientists have proved that the vitamin value of many foods is actually increased by their preservation in tin. This is especially true with vegetables in general and tomatoes in particular."—"The Empire Mail" for May.

British Duty on Enamelled Hollow-ware

The official announcement of an import duty of 25 per cent. on imported wrought enamelled hollow-ware has given much satisfaction among manufacturers and workpeople in South Staffordshire and district where the industry is largely centred (writes a local correspondent). It will be recalled that in 1925 the manufacturers of wrought enamelled hollow-ware and of aluminium hollow-ware made an application for relief under the Safeguarding of Industries procedure but were unsuccessful. Since then the position in regard to the former branch of the hollow-ware trade has become worse. Several firms have dropped out of the industry, the number of workpeople has declined, and, on the other hand, there has been a big increase in the tonnage to this country of continental wrought enamelled hollow-ware. In volume, the bulk of it is German, but

it is an open secret that the low prices of this ware were very largely influenced by the still lower quotations of Belgian competitors who, it appears, have decided economic advantages in respect of labour costs and general overhead charges. The unfairness of the competition has, at last, apparently impressed the Board of Trade Committee of Inquiry, and in the Black Country, at all events, there is a consensus of opinion that hollow-ware production, in the grade mentioned, will, in the near future, have a new lease of life, even if continental producers make, as may not be unlikely, some little modification of their selling rates.—*"The Hardware Trade Journal."*

Foreign Cutlery in Great Britain.

An application of the Sheffield Cutlery Manufacturers' Association that all imported cutlery should bear a mark both upon importation and sale has been heard by the Standing Committee under the Merchandise Marks Act. The application was opposed by several business firms, and a good deal of evidence was given for and against. According to this evidence only a matter of five per cent. of the table cutlery sold in Great Britain is not of British manufacture, and so far as Britain is concerned table cutlery represents 65 per cent. of the trade in cutlery actually done. The remaining 35 per cent. includes toys and cheap knives and scissors, some of them made of iron and not of steel at all. "Muck" was the expressive word applied to it by one manufacturing witness.

The growth of the safety razor trade in Great Britain within recent years was suggested by the evidence adduced. Several British manufacturers are now producing safety razor blades by the hundred thousand, and one of these took exception to the proposal on grounds pertaining to that trade. Because he could not obtain suitable blanks in Great Britain he imported them from Sweden and he objected to having them marked because that would indicate to the world where they came from, and probably prejudice his export trade. Knowing where the blanks could be obtained, buyers abroad would be induced to set up their own finishing plants. Even if such blanks had to be marked as suggested, it would still be possible to import the Swedish steel in strips and make the blanks in Britain without any marking.

Trade Marks in China.

The position of British firms who have trade marks registered in China has been rendered rather perplexing by recent events, which are the subject of comment by the Association of British Chambers of Commerce in China and Hong Kong. In August last the Nationalist Government issued an order which was taken to indicate that temporarily, and pending further reorganisation, that Government would recognise and continue to enforce all laws promulgated by the Peking Government which were not inconsistent with the policy of the National regional authority. A judicial pronouncement made it clear that the trade mark law made effective by the Peking Government in 1923 was embraced in the order. Advice recently received in this country, however, show that an attempt is being made to establish a local Trade-mark Bureau in Shanghai, and provisional regulations have been issued under which those in charge of it are instructed to accept applications from owners of trade-marks for registration of their marks with the bureau at certain charges laid down. The Association of British Chambers of Commerce out there takes this to mean that the Nationalist Government intends that the Trade-mark Bureau now being organised shall, as far as concerns the territory under its control, supplant the Peking Government, and that "unless marks are re-registered with the local bureau, trade-

mark owners will not receive in Nationalist territory that protection for their mark which they have a right to expect by virtue of their registration at the Government Bureau at Peking." Such a move as that now under notice is distinctly prejudicial, and it is satisfactory to learn that several of the national chambers are active on the matter. Meanwhile, the official organ of the association in China and Hong Kong advises trade-mark owners to rely upon the registration already effected in Peking.—*"The Hardware Trade Journal."*

Marking of Cutlery.

During the month of March the Sheffield Police Court was asked to decide a case regarding the marking of cutlery. The defendant was Alfred Wainwright, and action was taken by the Cutlers' Co. of Sheffield, under the Cutlery Trades Act of 1819. It was shown that the defendant, a local manufacturer of cutlery, had branded on the blades of certain table knives the intimation "Best English Cutlery, Sheffield," whereas the knives were of inferior quality. This constituted a mis-description under section 4 of the Act in question, and the Cutlers' Co. had interfered in the interests of the trade. Four different charges were brought, and two hundred gross of table knives were involved, with a total liability in fines of £12,000. They did not ask for a heavy penalty, but they wished to have a decision which would constitute a warning to all manufacturers of cutlery in Sheffield.

Those called as witnesses for the prosecution included Mr. W. C. Veall (Needham, Veall & Tyzack Ltd.), Alderman W. F. Wardley, an ex-lord mayor of Sheffield; Mr. J. W. Ibberson (Geo. Ibberson & Co.), and Mr. S. Partridge, secretary of the Sheffield United Cutlery Council. All testified to the inferiority of the challenged knives. Cutlery marked "best" should have the best of material and workmanship in it, whereas the knives manufactured by the defendant had poor-grade handles and were altogether of poor material and finish. They could only be described as second or third rate.

For the defence, it was urged that the bench was being asked to set a standard and give a meaning to the word "best." Before taking proceedings, the Cutlers' Co. should have endeavoured to fix such a standard which every manufacturer could understand, and to which he could work. At present twelve different manufacturers, all reputable, produced "best" quality knives, all differing, doubtless, in quality. Mr. Wainwright had been in the cutlery trade for over thirty years, and had no wish to do anything detrimental to it.

After a short absence, the magistrates imposed a fine of £5 with £5 costs. The words "Best English Cutlery, Sheffield," they held, referred to a class, and while they were not bound to define that class, they were satisfied that the knives in question did not come within it.

In What Class Are You?

There are three kinds of people in all organisations: There are the rowboat people, the sailboat people and the steamboat people.

The rowboat people always need to be pushed or pulled along. The sailboat people move along when a favourable wind is blowing. But the steamboat people move along continuously, through storm and calm. They are the masters of themselves and their surroundings.

We need more people of the steamboat variety. In what class are you? You do your own classifying, for the duty devolves upon you.—*American Paper.*

Interstate General News

New Premises.

For the Firdaw Engineering Supply Co. Pty. Ltd., hardware merchants, of 310 Spencer-street, Melbourne, new premises are being erected at 510-16 Latrobe-street. The plans show a double-storey building with a central driveway and provision for plenty of natural light. At the back is a right-of-way so that the passage of goods will be uninterrupted. The floors will be of reinforced concrete to withstand heavy loading.

New Club Building for Tasmanian Capital.

On the site of their old premises in Collins-street, Hobart, the Commercial Travellers' Association are erecting a new club building rising three storeys above the street level. The facade will be of classical design with fluted Ionic columns having capitals and occasional floral enrichment. Electric current will be "on tap" for lighting purposes, but the various rooms will be heated by means of solid fuel consumed in spacious fireplaces.

War Memorials.

In Melbourne a beginning has been made with the erection of the Shrine of Remembrance. It will occupy a splendid site on St. Kilda-road, and will cost at least £180,000, of which all but £20,000 has already been received. Sir Bertram McKennal suggested a memorial for Brisbane to cost about £25,000, but for reasons which seem sufficient this proposal has been modified and competitive designs for a piece of sculpture to cost not more than £10,000 are now being invited throughout the Commonwealth.

Cement Manufacture in Tasmania.

At a general meeting on July 25 of Tasmanian Cement Pty. Ltd., it was decided to sell the works at Railton, on the north-west coast of Tasmania, to the Goliath Portland Cement Co. Ltd. The idea underlying and explaining the sale is the expansion of the industry. Under the new arrangement it is expected that the present pay-roll of about one hundred will be increased to three times that number and that the railways will be called upon to handle 40,000 tons of coal and 100,000 tons of cement every year.

Theft of Stock

Some little time ago Dott & Co. Pty. Ltd., glass manufacturers, of North Melbourne, reported to the police that examination revealed a shortage of some £2000 worth of stock. Three men are now before the local police court in connection with the theft—George Seibberas and Victor Campbell charged with having stolen lamp glasses and other goods valued at £30, and James Alexander Hill Jones with having received the lamp glasses knowing them to have been stolen. Campbell was employed by the firm as night watchman and fireman.

Shale Oil Project.

A revival is foreshadowed of oil-producing interests at Hartley Vale, New South Wales. The Lithgow Mining Court has granted an extension of prospecting leases to applicants who speak of erecting a plant to cost £30,000. They control a new process, said to be of German invention, for extracting shale oils and motor spirit, the latter of greater strength than any now on the market. Tests are being made to determine the width or volume of the seam.

Years ago the Commonwealth Oil Corporation Ltd., spent much money at Hartley Vale and Newnes in developing the shale oil industry, but costs

of production and transport rendered the enterprise unprofitable and the workings had to be abandoned.

Alternate Directors

Something unusual in the management of a company is proposed by Mort's Dock & Engineering Co. Ltd., of Sydney. The shareholders are to be asked to sanction an amendment of the articles of association providing for the appointment of "alternate directors." This is to be secured by the adoption of a new clause which sets out that "any director may, from time to time, appoint any person who is approved by the majority of the directors as alternate or substituted directors, to be an alternate or substituted director. The appointee, while he holds office as alternate director, shall be entitled to notice of meetings of the directors, and to attend and vote thereat as a director, but he shall not require any qualification, and shall not be entitled to be remunerated otherwise than out of the remuneration of the director appointing him."

Change of Policy

"Prices and competition are very keen and although the business of the society is being maintained satisfactorily, the impossibility of continuing to distribute the eight per cent. in dividends, together with 10 per cent. bonus on purchases and at the same time compete with other houses, is fully apparent." This is the reason offered by the directors of the Civil Service Co-operative Society of N.S.W. Ltd. for abandoning the bonus system altogether. Hitherto the bonus on purchases has been the main incentive for people to become members of the society, and many only held shares enough to entitle them to such bonus. The dividend is limited by law to eight per cent. From Pitt-street the society recently moved into fine new premises at 413-21 George-street—Lassetter's old site—and this change, it may be, has affected its ability to carry the bonus burden by increasing the cost of doing business (rent or interest charges) or reducing the comparative turnover.

Summer Time in New Zealand.

A circular letter was recently sent by the executive committee of the Dunedin Manufacturers' Association to the members of that body, asking their opinion regarding the effects of the summer-time experiment of last year. The questions submitted, and the results were as follows:—

(1) What were the effects of the experiment last summer on the production of your factory or works? — Fifty-eight members have replied. Twenty-one said they could trace an improvement in output, 33 said no effect was noticeable, chiefly because the period of trial was too short, and four replies were indefinite.

(2) What were the effects on the health, spirit, and general efficiency of your employees?—Fifty-eight members have replied. Thirty-eight stated definitely that there was an improvement, 19 said no effect was traceable, and one reply was indefinite.

(3) Are you in favour of the re-enactment of the Bill for a further period of trial?—Fifty-eight members have replied. Fifty-five were in favour of re-enactment, employing 5007 hands, two were unfavourable, employing 30 hands; and one was indefinite, employing 49 hands.

Country Stores Amalgamated.

It was recently announced that Edgley Ltd., general merchants, of Bathurst and Orange, New South Wales, had been merged in the Western Stores

Ltd., with branches at Dubbo, Wellington, Narromine, Gilgandra and other towns. Since then the absorption of Dalton Bros. Ltd., also of Orange, has been arranged, the sale and transfer to date from September 1 next. The general mercantile business of this firm, with all stock, and the produce store, is to be taken over, but not the flour-milling business, which will be continued by Dalton Bros. Ltd. As now augmented, the purchasing company will have a nominal capital of £600,000. Mr. M. F. Dalton, governing director of Dalton Bros. Ltd., will be one of the directors and the general management of the business will probably be entrusted to Mr. W. Stiffe. The new company will trade as the Western Stores & Edgleys Ltd., incorporating Dalton Bros. Ltd., Orange. The head office of the company will be in Dubbo as at present.

Established in the neighbourhood of Orange as long ago as 1849, the Dalton business has been conducted by the family ever since. The founder, the late Mr. James Dalton, was subsequently joined by his brother, the late Mr. Thomas Dalton, M.L.C. That gentleman afterwards removed to Sydney in connection with a successful city venture, Dalton Bros., of Sydney Ltd., who have warehouses at 225-27 Kent-street, and 306-18 Sussex-street.

A Banker on the Need for Economy

At the annual general meeting of the Commercial Banking Co. of Sydney Ltd., the chairman of directors, the veteran Mr. George J. Cohen, spoke as follows:—

"Perhaps I owe you an apology for so often using the occasion of our general meeting to urge the need for economy in Australian public and private life. It is satisfactory to find that some of our prominent men are publicly acknowledging this need. Expenditure must be governed by volume of production, a fact which must be much more generally acknowledged and acted upon if our national life and business are to be healthy and sound. In this connection I referred last year to the time payment system which is so widely in vogue. It is interesting to note that after long experience elsewhere, it is now recognised that this practice of discounting the future must stop. There are increasing indications that the existing heavy taxation and Arbitration Court awards are becoming burdensome to commerce and industry. It is to be hoped, therefore, that endeavours will be made by the Australian Governments to balance accounts by bringing expenditure within income rather than by seeking increase of income in order to meet expenditure, as further additions to these burdens must accentuate the depression existing in many of our industries in the Commonwealth, and tend to increase unemployment."

The Iron Deposits of the West

According to press reports the iron deposits at Yampi Sound, on the north-western coast of Western Australia, or some of them, are to be worked with British capital and sold to Japanese smelters. The arrangement or suggested arrangement with the latter covers twelve and a half years, 50,000 tons of ore to be taken the first year, 300,000 tons the second year, 500,000 tons the third year and 1,000,000 tons yearly thereafter. The Japanese will transport the ore in their own vessels. It is also proposed to sell ore to British firms.

Regarding the iron ore deposits of Western Australia, the latest Commonwealth Year-Book has the following note:—"This State has some very rich deposits of iron ore, but, owing to their geographical position, the most extensive fields at the present time are practically unexploited, the production in the State being confined chiefly to that needed for fluxing purposes. The ores are found over a stretch of country from Kimberley to Cape Leeuwin. Amongst the most important of the high-grade deposits are those at Yampi Sound in the Kimberley division, which are estimated to con-

tain 97 million tons of very rich ore; Wilgie Mia, where the ore in sight is estimated at 27 million tons; Gabanintha, near Nannine, with over a million tons above surface level; Mount Gibson, in the south-west corner of the Yalgoo goldfield, where there are about ten million tons of ore adapted for steel manufacture by the acid process; Talling Range in the westernmost angle of the Yalgoo goldfield where the deposits amount to several millions of tons; and Koolyanobbing, near Southern Cross, where there is a very large deposit of high-grade micaceous hematite."

Notes From Canterbury, N.Z.

An unusual step was taken by the Conciliation Council in Christchurch lately when it decided to go into committee for the discussion of the demand for a new agreement filed by the Amalgamated Engineering and Allied Trades Union (New Zealand Council) against the New Zealand Federated Ironmasters' Association and others. The union claims included a forty hours week of work on five days a week, double time for work done on holidays, six days annual leave on full pay, minimum rate of wages £6 per week, with exception of patternmakers £6/10/-, blacksmiths on heavy work 2/6 per day extra.

The employers submitted as counter proposal the terms of the present award with the following amendments. Forty-four hours to constitute a week's work, eight hours to be worked on each of five days and four on Saturday, minimum wages to be 2/3 an hour with certain exceptions, 2/1½ per hour. Preference clause to be deleted. The terms of award to be for one year.

Both sides expressed a desire that the matter should be discussed in committee and the Council fell in with this suggestion. Subsequently it was announced that the present award had been renewed until November 5, with the same list of parties and the same exceptions.

On July 13 the Borough of Timaru celebrated its Diamond Jubilee, the programme including tree-planting, old settlers luncheon, procession, children's demonstration and in the evening a torchlight procession and jubilee ball. Some fine buildings now adorn the town and others are contemplated. Where once the Pacific Ocean rolled in on an exposed coast, are now found a good harbour and ample wharf accommodation. It is a triumph, indeed, of marine engineering. Timaru can also boast over one hundred factories and workshops.

Good progress is being made with the building of the first section of the new workshops at Addington, and before long the Railways Department will instal the necessary machinery. The second section will next be proceeded with, and the contractor for the foundations has begun work on the steel waggons shop. The first section comprises six shops, the builders being McLennan Ltd., who have also secured the contract for erecting the second section.

Mr. John Fuller, who recently visited Christchurch for the purpose of forwarding the plans of the new theatre, states that a start will be made with the erection about December 1. The new building will have seating accommodation for about 2000 people.

Further gifts to mark the Diamond Jubilee of the city of Christchurch are a bandstand, twelve steel lamp columns and one tower with clock, all from Mr. T. J. Edmonds, the proprietor of a baking powder business.

The Christchurch and Port Committee are working hard to obtain public support for the scheme of a tunnel road to the Port of Lyttelton and a deputation waited recently on the Canterbury Manufacturers' Association with a view to enlist the sympathies of that body.

Considerable enthusiasm has been aroused by the proposal of Captain Kingsford-Smith to fly from Australia to New Zealand.

Commonwealth Tariff Decisions

The following decisions of more or less interest to the hardware trade have been made during July. By way of explanation, it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (9/7/28, and so on) the date on or from which the new decision took or takes effect:—

Coverings—			
28/539	Floor, and Stair, being imitations of Floor and Stair coverings of Rubber.	332 (c)	9/7/28
Electrical Appliances and Materials—			
28/546	Chargers, Battery, for use with A.C. Mains.	179 (d) (1) (a)	9/7/28
Electrical Appliances and Materials—			
28/547	Eliminators, Battery, Radio, for use with A.C. Mains. Note.—T.D. 27/651 is to be cancelled.	179 (d) (1) (a)	9/7/28
Electrical Appliances and Materials—			
	Heaters, Rivet, Electric.—See Machinery, Machines, etc.—T.D. 28/550.		
Forks—			
28/549	Stainless Steel Note.—The reference thereto in Guide, page 132, is to be cancelled.	197 (b)	9/7/28
Machinery, Machines, Etc.—			
28/550	Heaters— Rivet, Electric Note.—The reference thereto in Guide, page 206, is to be cancelled.	179 (a)	9/7/28
Machinery, Machines, Etc.—			
28/551	The reference to Centrifugals for Sugar Mills, in Consolidated By-laws, page 28, and in By-law No. 25, and the reference thereto in Guide, page 189, as amended by T.D. 27/1029 are to be cancelled, but any such Centrifugals as were in direct transit to Australia on 9th July, 1928, may be admitted under Tariff Item 174. (By-law No. 1096).	..	9/7/28
Reamers—			
28/553	Irrespective of whether for use in machines or by hand. Note.—The following references in Guide, page 318, are to be cancelled— Hand, Machine.	176 (f)	9/7/28
Snaps—			
28/555	For use in the manufacture of Dog Leads. (By-law No. 1107).	404	14/2/28
Spoons—			
28/556	Stainless Steel Note.—The reference thereto in Guide, page 350, is to be cancelled.	197 (b)	9/7/28
Electrical Appliances and Materials—			
28/572	Telephone (Wireless) Plant, Parts of —T.D. 28/471 having reference to Loud Speakers for use in the manufacture of Wireless Receiving Sets and the relative reference in By-law No. 1066 are to be amended by adding after the word "Speakers" appearing therein the words "not including cabinets." (By-law No. 1116).	..	16/7/28
Handles—			
28/573	Heat Resisting, being composition on metal, for use in the manufacture of Saucepans. (By-law No. 1117).	404	6/6/28
Iron and Steel—			
28/574	Bars—The reference to Hexagonal-shaped bars in T.D. 28/528 is to be amended by adding after the reference "59/64" the following, viz.:—"1 in."	..	..
Machinery, Machines, Etc.—			
28/575	Boilers— High Pressure, Parts of, viz.:— Drums, Boiler, for use in the manufacture of Water Tube Boilers designed to operate at steam pressures of 350 lb. per square inch and over, under security. (By-law No. 1118).	404	22/8/27
Machinery, Machines, Etc.—			
28/576	Fans, table, with self-contained Caloric Motor. (By-law No. 1119).	174	21/6/28

Chain and Chains—

28/599	The reference to Chain, sprocket, steel, for use in the manufacture of Agricultural Machines, under security, in Consolidated By-laws, page 101, in By-law No. 71, and in Guide, page 54, is to be cancelled but any such chain as was in direct transit to Australia on 23rd July, 1928, may be admitted under Tariff Item 404, under security. (By-law No. 1143.)	..	23/7/28
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Chain and Chains—

28/600	The reference to Machine Driving Sprocket Chain or Link Belting, malleable cast iron, of sizes up to and including No. 77, and steel or malleable cast iron connections or attachment links for use therewith, for use in the manufacture or repair of Agricultural Machines, in Consolidated By-laws, page 101, in By-law No. 71, and T.D. 25/547, are to be cancelled, but any such Sprocket Chain or Link Belting and connections or attachment links for use therewith as were in direct transit to Australia on 23rd July, 1928, may be admitted under Tariff Item 404. (By-law No. 1144.)	..	23/7/28
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Metals—

28/605	Monel Metal and other similar Alloys composed principally of copper and nickel provided the nickel content thereof exceeds 20 per cent., viz.:— Blocks, Cubes, Angles, Bars, Rods, and Tees, not polished, plated, decorated, or further manufactured. Ingots. for all purposes. (By-law No. 1141.) Note.—The references to Monel Metal Blocks, etc., and to Monel Metal Ingots for all purposes, in Consolidated By-laws, page 75 and in By-law No. 71 as amended by By-law No. 920, and T.D.'s 28/217 and 272 are to be cancelled, but any such goods as were in direct transit to Australia on 23rd July, 1928, and which but for this decision would be admissible under Tariff Item 404 may be admitted under that Tariff Item.	404	23/7/28
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Oils—

28/606	Carbolineum Avenarius, being a refined coal tar oil.	266 (d)	23/7/28
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Pipes and Tubes (Metal)—

28/608	Monel Metal and other similar Alloys composed principally of copper and nickel provided the nickel content thereof exceeds 20 per cent., for all purposes. (By-law No. 1141.) Note.—The reference to Pipes and Tubes, Monel Metal etc., for all purposes, in Consolidated By-laws, page 76 and in By-law No. 71 as amended by By-law No. 920, and T.D. 28/273 are to be cancelled, but any such Pipes and Tubes as were in direct transit to Australia for this decision would be admissible this decision would be admissible under Tariff Item 404, may be admitted under that Tariff Item.	404	23/7/28
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Plates—

28/609	Monel Metal and other similar Alloys composed principally of copper and nickel provided the nickel content thereof exceeds 20 per cent., for all purposes. (By-law No. 1141.) Note.—T.D. 28/579 having reference to Plates, viz.:—Brass, Bronze, etc., for the manufacture of metalware and general purposes as amended by T.D. 28/274 is to be further amended by deleting therefrom the reference to Monel Metal and other similar alloys composed principally of copper and nickel, and the relative reference thereto in Consolidated By-laws, page 75, and in By-law No. 71 as amended by By-law No. 920 and T.D. 28/274 are to be cancelled, but any such plates as were in direct transit to Australia on 23rd July, 1928, and which but for this decision would be admissible under Tariff Item 404 may be admitted under that Tariff Item.	404	23/7/28
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Nails—			
28/577	Foundry, Chilled—The date of operation of T.D. 28/211 and By-law No. 881 is to be amended to read "23/5/27." (By-law No. 1120.)
Paints, Colours, Varnishes, Etc.—			
28/578	The reference to Red Lead, Dry, for all purposes, in Consolidated By-laws, page 76, in By-law No. 71, and T.D. 23/42, are to be cancelled, but any Dry Red Lead which was in direct transit to Australia on 16th July, 1928, may be admitted under Tariff Item 404. (By-law No. 1121.)	..	16/7/28
Sheets—			
28/610	Monel Metal and other similar Alloys composed principally of copper and nickel provided the nickel content thereof exceeds 20 per cent., for all purposes. This includes circles and segments. (By-law No. 1141.) Note.—T.D. 23/582 having reference to Sheets, including Circles and Segments, viz.:—Brass, Bronze, etc., for the manufacture of metal-ware and general purposes as amended by T.D. 28/277 is to be further amended by deleting therefrom the reference to Monel Metal and other similar alloys composed principally of copper and nickel, and the relative reference thereto in Consolidated By-laws, page 75 and in By-law, No. 71 as amended by By-law No. 920, and T.D. 28/277 are to be cancelled, but any such Sheets as were in direct transit to Australia on 23rd July, 1928, and which but for this decision would be admissible under Tariff Item 404 may be admitted under that Tariff Item.	404	23/7/28
Stampings—			
28/611	Monel Metal and other similar Alloys composed principally of copper and nickel provided the nickel content thereof exceeds 20 per cent., in the rough, for all purposes. (By-law No. 1141.) Note.—The reference to Stampings, monel metal, etc., for all purposes, in Consolidated By-laws, page 76 and in By-law No. 71 as amended by By-law No. 920, and T.D. 28/278 are to be cancelled, but any such Stampings as were in direct transit to Australia on 23rd July, 1928, and which but for this decision would be admissible under Tariff Item 404 may be admitted under that Tariff Item.	404	23/7/28
Strips—			
28/612	Monel Metal and other similar Alloys composed principally of copper and nickel provided the nickel content thereof exceeds 20 per cent., for all purposes. (By-law No. 1141.) Note.—T.D. 23/583 having reference to Strips, viz.:—Brass, Bronze, etc., for the manufacture of metal-ware and general purposes as amended by T.D. 28/280 is to be further amended by deleting therefrom the reference to Monel Metal and other similar Alloys composed principally of copper and nickel, and the relative reference thereto in Consolidated By-laws, page 76 and in By-law No. 71 as amended by By-law No. 920, and T.D. 28/280 are to be cancelled, but any such strips as were in direct transit to Australia on 23rd July, 1928, and which but for this decision would be admissible under Tariff Item 404 may be admitted under that Tariff Item.	404	23/7/28
Wire—			
28/616	Monel Metal and other similar Alloys composed principally of copper and nickel provided the nickel content thereof exceeds 20 per cent., for all purposes. (By-law No. 1141.) Note.—The reference to Wire, monel metal, etc., for all purposes, in Consolidated By-laws, page 76 and in By-law No. 71 as amended by By-law No. 920, and T.D. 28/281 are to be cancelled, but any such Wire as was in direct transit to Australia on 23rd July, 1928, and which but for this decision would be admissible under Tariff Item 404 may be admitted under that Tariff Item.	404	23/7/28
Wire—			
28/615	Aluminium, Nos. 31 and 34 gauges (I.S.W.G.), for use in the manufacture of Welding Electrodes, under security. (By-law No. 1140.)	404	9/9/27
Electrical Appliances and Materials—			
28/628	Elements, Rectifying, Metal, for use in the manufacture of Battery Chargers and of Battery Eliminators. (By-law No. 1151.)	404	9/2/28
Electrical Appliances and Materials—			
28/629	Relays for the automatic protection and/or operation of generator, transformer, converter and feeder circuits, for power stations and sub-stations, under security. (By-law No. 1161.) Note.—T.D. 27/348 and By-law No. 207 are to be cancelled as on and from 30th July, 1928.	415 (a) (2)	8/10/26
Handles—			
28/630	Aluminium, shaped and drilled, for use in the manufacture of Tooth Brushes. (By-law No. 1152)	404	29/12/27
Pipes and Tubes (Metal)—			
28/631	T.D. 28/608 having reference to Pipes and Tubes, Monel Metal and other similar Alloys, etc., is to be amended by inserting after the reference "20 per cent." the following, viz.:—"not plated, polished, decorated, or further manufactured".	..	..
Plates—			
28/632	T.D. 28/609 having references to Plates, Monel Metal and other similar Alloys, etc., is to be amended by inserting after the reference "20 per cent." the following, viz.:—"plain or tinned, unpolished".	..	..
Sheets—			
28/633	T.D. 28/610 having reference to Sheets, Monel Metal and other similar Alloys, etc., is to be amended by inserting after the reference "20 per cent." the following, viz.:—"plain or tinned, unpolished".	..	..
Strips—			
28/634	T.D. 28/612 having reference to Strips, Monel Metal and other similar Alloys, etc., is to be amended by inserting after the reference "20 per cent." the following, viz.:—"plain or tinned, unpolished".	..	..
Electrical Appliances and Materials—			
28/642	T.D. 28/202 and By-law No. 879 having reference to 9000 k.v.a. and 7500 k.v.a. Transformers for 70,000 volt operation are to be amended by inserting after the word "operation" appearing therein the words "and space parts therefor," and further by inserting the date "1st February, 1928" in addition to the dates set out therein. (By-law No. 1167.)	..	..
Electrical Appliances and Materials—			
28/524	Connectors for use in the manufacture of Radio "B" Batteries, Alkaline type, to be fitted into Cabinet complete with Charging apparatus of Australian manufacture, under security. (By-law No. 1085.)	404	8/6/28
Electrical Appliances and Materials—			
28/525	Elements for use in the manufacture of Radio "B" Batteries, Alkaline type, to be fitted into Cabinet complete with Charging apparatus of Australian manufacture, under security. (By-law No. 1085.)	404	8/6/28
Electrical Appliances and Materials—			
28/526	Separators for use in the manufacture of Radio "B" Batteries, Alkaline type, to be fitted into Cabinet complete with Charging apparatus of Australian manufacture, under security. (By-law No. 1085.)	404	8/6/28
Fishing Appliances—			
28/527	Cane, being lengths of split cane glued together, for use in the manufacture of fishing rods. (By-law No. 1087.) Note.—The reference thereto in Consolidated By-laws, page 92, and in By-law No. 71, and T.D. 25/570, are to be cancelled.	404	13/6/28
Iron and Steel—			
28/528	Bars— Steel, bright, soft cutting, viz.:— Hexagonal shaped, $\frac{1}{8}$ in., $\frac{1}{4}$ in., $\frac{3}{8}$ in., and $1\frac{1}{2}$ in. Round, $\frac{3}{8}$ in., $\frac{1}{2}$ in., and $1\frac{1}{2}$ in., for use in the manufacture of spark plugs, under security. (By-law No. 1088.)	404	11/10/27

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.

For English prices, see The Month's Cablegrams on page 276

Sydney, August 1, 1928.

With general demand from the country and a good distribution in the metropolitan area trading conditions have shewn buoyancy for the month just closed. Shelf goods were sold at current prices and an all round demand was encouraging. Overseas quotations in jute from Calcutta firmed and made some activity on spot, and this was reflected in indent orders. July is reported to have been the best month in jute fabrics as far as activity is concerned for some time, and those who have operated on Calcutta for new season's delivery will probably have their confidence justified. Some good transactions are reported. Resin and turpentine have been active both from stocks to arrive and from ships afloat and for indent positions for shipment during the later months of the present year. Stocks of both lines on spot are not heavy. Tin-plates sold to the manufacturers steadily, and reports show that trade is healthy. Indent positions from Wales are quoted at firm prices. Galvanised sheets (plain and corrugated) were in short supply and although prices were favourable some sizes were unobtainable, and inconvenience amongst distributors resulted. Building activities and damage through the heavy rains have been the cause of the general demand, and signs are apparent of the steadiness of the position generally. Shellac quotations firmed in Calcutta and caused activity locally from stocks. The position shows a firm demand for stocks at Calcutta for forward shipment. Steel has hardened in price on spot and distribution has been heavier than usual. The oil trade has shown very little recovery from the dull period through which it has passed, and prices are quoted consequently with an idea of reducing stocks in view of parcels on the water en route to Sydney. Wholesale houses report very satisfactory returns from the country, and the recent rains have made a more hopeful position concerning the distribution of stocks. In the metropolitan area trade generally has been very well maintained, although shelf goods were sold at sale prices in many of the larger retail establishments, and this to some extent affected the sales in the smaller retain shops in the suburbs. Suburban trade is good, however, and cash transactions are well up to the figures written in the corresponding period of last year.

Christchurch, July 18, 1928.

Although it is practically the middle of winter the local hardware houses seem in no way depressed. More money is coming into circulation gradually from the results of the good prices received by farmers for wool and dairy produce. In addition to this there is quite a boom in building activities and the sales of locksets, window trimmings and all builders' requirements. Pruning and spraying work by local orchardists is bringing big business to those hardware stores specialising in pruning shears and spraying oils and insecticides. The reduction of the bank charge on overdrawn accounts from 7 to 6½ per cent. is another helpful measure which should still further assist in the development of new manufactures and also benefit the building trade. The proposal to establish a new bank in the Dominion was seemingly responsible for this reduction of interest charges. The

announcement that the Canterbury Automobile Association had arranged for a supply of cheaper petrol to its members has been followed by a reduction in the price of the spirit by at least six petrol stations in the city, first grade spirit being now sold at 1/10 per gallon. Up to the time of writing the big oil companies have taken no action in the matter but two retailers of their petrol acting independently have reduced their prices to the figure quoted. Further developments in the petrol trade of Christchurch are likely before the position finally adjusts itself. There are unfortunately several hundred men with dependents still unemployed in the city and the position is being helped very materially by the City Council's river boulevard scheme, which has now been commenced at Dallington and Richmond on opposite sides of the River Avon, where big gangs of men are cutting down trees, removing fences and laying out a very

NEW ZEALAND PRICES

	Duty.	Auckland.	C'church July. 18	Dunedin, July. 15	Wellington, June. 21
IRON—					
Bar—		£	£	£	£
English ..	Free	21	22/	21/	22/
Shoeing ...	"	23	23/	21/	23/
Steel ..	"	15/10 to 21/-	20	22/	15/ to 22
Pig ...	"	8	10/6	10/6	9/- to 10/-
Plate ...	"	21 10/	24/	25/	22/
Hoop ...	"	24/ 35/	25/6, 37/6	30/	25/ and 35/
Sheet, Blk.	"	"	"	"	"
to 20-g. ...	"	23 10/ 24 10/	24/6	24/	23/6
22 & 24 g.	"	25 10/	26/6	26/	25/6
Galv. Cor.	2/-	"	"	"	"
First ...	"	28	27/ Builders	27/	28/
Second ...	"	27	25/- "	26/	27/
Local ...	"	28	"	"	"
Do., Plain	Free	"	"	"	"
24 & 26 g.	"	29/10, 30/15	29/6, 32/	33, 35, 37	28
Pipe—Galv.	Free	50%	47½% off	42½	45% off
Black	"	60%	50% off	50% off	50% off
Wire—	"	"	"	"	"
Galvd. ...	"	15/6, 18/-	16/	16/	17/ to 18/
Black ...	"	16/-	16/	15/	"
Barbed ...	"	21, 23 10/	21/-	21/	21/ to 22/
Nails	2/4/- c	20/6	20/	22 to 23	22
N. Z.	"	20/6	"	"	22
Lead—Pig	Free	30/-	33/-	36/	32
Sheet	"	34, 10	36/-	34/	39
Shot	"	10/-	75/	80/	75/
Tin—Ingot	Free	2/7	2/9	2/6	2/10
Plates	"	32/6, 48/6	40/	40/	37/6
Zinc—Sheet	"	7½d. lb.	9d. lb.	8½d.	7½d
Quicksilver	"	"	6/6lb	"	"
Cement—					
Imported	1/- cwt.	"	28/6 cask	"	"
Local bag	"	5/8	7/-	6/	5/11
Slates	Free	"	"	"	"
P. of Paris ...	"	26/-	30/-	28/-	27/
White Lead	8/- cwt.	"	"	"	"
Best ...	"	54/	56/	56/-	58/
Second ...	"	53/	"	"	57
Blast. Powder	Free	1/8	2/-	1/7	1/8
Rope—	20%	"	"	"	"
Manila, Star	"	111/	111/	111/	111/
O. ...	"	107/	107/	107/	107/
Flax, N.Z.	"	81/ 88/	88/	88/	88/
Co. nsacks ...	Free	"	"	"	"
44-in. ...	"	"	"	13/3½	12/6
46-in. ...	"	"	"	12/9	12/9
48-in. ...	"	14/6	13/3	13/10½	13/-
Woolpacks ...	"	"	"	"	"
Full	Free	5/3	5/8	4/6	5/3
Oils—					
Lins'd, raw	6d.	5/-	N.Z. 5/- Eng 5/3	5/2	5/3
Castor ...	Free	5/-	5/6	5/5	5/6
Colza ...	"	7/9	"	8/-	7/1
Kerosene	"	13/9	14/9	14/6	13/9
Turpentine	"	6/6	5/6	6/6	6/6

handsome riverside drive of about one and a half chains in width. Ornamental trees are to be planted and practically all the money voted will be spent in labour. Four relief depots are being opened in the city and Mr. A. F. Drayton, president of the Christchurch Hardware Association, is taking a very active part in the organisation. The recent reduction in customs tariff is responsible for a big drop in galvanised corrugated and flat iron, Orb and other first quality corrugated now being sold to builders at £27/10/- and second grades at £25 per ton, basis of 8 ft. sheets. Galvanised flat sheets have been reduced from £31 to £29 for 24 gauge.

Dunedin, July 15, 1928.

Although business at the present time is reckoned but fair to medium prospects are more promising. Several building undertakings are maturing towards a fulfilment with other to follow in due course. A considerable proportion of the recent unemployment has been distributed throughout the city and country districts engaged chiefly on road works, rendered necessary through the growth of motor-bus traffic freight and passengers. This increase is induced locally by the tendency of many city dwellers, to reside during the summer season at the various watering places so convenient to the city by road. In regard to prices, galvanised corrugated iron has declined to 27/- for first brands, and 26/- for second. Sheet lead is also down to 34/-, and tin in ingots to 2/6. Corn sacks are now ruling at 13/3½ for 44 in., 13/3½ for 46 in. and 13/10½ for 48 in.

Brisbane, August 1, 1928

Hardware trade during July showed a marked improvement and prospects are much better. The winter months have been mild with a fairly good rainfall, extending over a rather wide area. Consequently country orders have been larger and in greater volume. Heavy hardware prices are about the same, but demands show an advance on last year's figures. Stocks have been low in consequence of firms reducing for stocktaking, but consignments are now coming forward in fair supply. Suburban business has been quiet. Pastoral lines have been in strong demand. Prices for fencing wires have eased, and in consequence there has been a fair clearance and some fair parcels have gone forward. Spot stocks are good. Woolpacks have been moving freely in anticipation of the spring clips, but stocks are well ahead of the demand, with further supplies arriving. Prices are steady. Builders ironmongery has shown an improvement with prices generally unaltered and stocks ample. Cement has been in strong demand, and as there are some large business edifices and other works about to be started, prospects appear satisfactory. Stocks are fair. Tools of all kinds are plentiful on spot. There has been a decided improvement in sales this month and prices are easier. Paints and oils have firmed a little. We are glad to report a good improvement in these lines. Stocks are plentiful. Turpentine stocks which were on the heavy side are now receding, and prices have firmed with sales very satisfactory. Household ironmongery, crockery, glass, enamelled and aluminium ware, have had a good deal of attention on account of keen competition through the mid-winter sales. Stocks, however, are fairly right. Sanitary and sewerage ironmongery and accessories have sold freely during the month with prices firmer and stocks adequate. August being Brisbane's annual exhibition month, departmental managers expect to meet many country buyers.

Adelaide, July 31, 1928.

A slight but heartening improvement was noticed at this centre during the month under review. Further splendid rains over the agricultural and pas-

toral areas have been recorded and some experts now state that the wheat harvest cannot be a failure, and there is every possibility of a record crop being harvested. A complete revival of trade is therefore expected in the spring. The building trade shows signs of emerging from its long period of depression, but a big improvement cannot be expected in this industry during the winter months. Merchants stocks are still heavy and as a consequence very little inter-house trading has been noted. A parcel of four miles of 36 x 1½ x 18 wire netting changed hands at £28 per mile and a few merchants found it necessary to buy in fencing wires on the spot to fulfil orders in hand. A few of these transactions noted were:—5 tons No. 10 galvd. at £16; 2 tons H.T. wire 12½g. x 1140 lb. B.S. at £21/10/-; 6 tons No. 10 black at £15; and 3 tons No. 8 galvanised at £14/10/-. Carbide sold a little more freely than for some time and business in turpentine and allied lines also showed improvement. A parcel of 15 cases of "Wando" turpentine was purchased by one merchant at 4/1 gal. ex store.

Melbourne, August 3, 1928

The month of July showed some little activity following the stocktaking period, although most of the purchases were due to the momentary cessation of operations until balancing was concluded. Quite a good turnover was reported in certain heavy materials, such as iron pipes, steel and lead. A sale was observed of 10 tons pig lead at £26, and 5 tons sheet lead at £35/10/-; the latter was for an interstate buyer. Lead pipe, sizes ½ x 3, ¾ x ½, and 1 in. x 6 sold at 40/- per cwt., the total quantity being about one ton. Ingot tin moved fairly well. Through the period under review sales were noticed of five tons, the price ranging from £222 to £225 per ton. Quite a good demand was experienced for steel bars. Round mild qualities, ½ in., moved at £13/12/6, 10 tons being cleared at this figure. A parcel of ¾ in. octagon drill steel found a buyer at £45. Ingots of aluminium, one ton in all, brought £113. Sales of solder included a parcel of one ton, 50/50, which sold at 1/3½ per lb. Amongst many sales of galvanised pipe there were 30,000 feet assorted ½ to 3 in. at 57½ per cent. off list; 5000 feet of the same, tested, ½ and ¾ at 55 per cent. off; 10,000 feet ¾ in. black pipe at 66½ per cent. off. Fencing wires sold well, although wire netting was dull. Specimen handlings were 5 ton lots barbed wire, 12 g., £22; 13 g. at £23; and 14 g. at £23/10/-. Plain galvanised wire brought £15/15/- for No. 8. Netting in lots of 5 miles fetched for 42 x 1½ x 17, £41/10/-, and for 36 x 1½ x 18, £29. Following a slack period in building materials some good sales were noted here and there. Handlings which indicate the ruling figures were: Galvanised corrugated iron, 10 tons assorted 6, 7, 8, 9 and 10 g., £24/10/- basis; this was an English brand. Cement continues to sell principally for municipal and other large construction work. Some British lines of cement are always in slight request, and during the month 100 casks of K.B. was purchased at 20/-. Another parcel of "Ferrocete" cement brought 23/6; this also was 10 casks. Other dealings which may be of interest were: 3 tons bluestone, Macclesfield brand, at £36; 10 bottles strychnine, 1 oz. at 2/10 per oz., and 10 case lots of turpentine at 4/6. The movement in heavy metals and hardware was not reflected in the shelf department. Wholesale handlings are not easily traced in detail, but judging from the state of the retail trade it must be said that business is quiet. Firms specialising in tools and appliances do good turnover, but there is not that life in the trade which could be desired. The slowness of building operations is observable in the slackness of demand for builders' hardware generally. A feature is the swing-over from British to foreign

lines. This is due partly to the strong Continental and American competition. Prices are usually lower in the latter, and in some cases superior methods of packing and display by foreign manufacturers bring their inevitable reward. The retailer feels obliged to handle those goods which are intelligently supported by advertising and by attractive counter display ideas. The public prefers to buy British where possible, and stores would like to give them preference. An awakening by many British makers to the position may still be hoped for.

The Month's Cables

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date	Copper Electrolytic Per Ton		Tin Standard Per Ton		Silver Standard Per Ounce	
	1927	1928	1927	1928	1927	1928
	£	£	£ s. d.	£ s. d.	d.	d.
Jne 29	59½-60	68½-69	297 16 3	213 17 6	26½	27½
July 4	59½-60	68½-69	295 5 0	208 13 9	26	27½
" 10	59½-60½	68½-69	286 7 6	209 3 9	25½	27½
" 17	60-60½	68½-69½	290 7 6	213 2 6	25½	27½
" 24	60½-61	68½-69½	287 11 3	217 11 3	26	27½
" 30	61-61½	68½-69½	292 2 0	211 12 6	25½	27½
Aug 3	62½-63½	68½-69½	297 12 6	213 6 3	25½	27½

The stocks of tin in the United Kingdom at the end of July were 17,898 tons, the deliveries for the month 2113 tons, the quantity on spot 1461 tons, and the quantity afloat 2048 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—July 4, £20/11/3; July 10, £20/2/6; July 17, £20/10/-; July 24, £20/16/3; July 30, £21; August 3, £21/1/3.

For the month of June the imports of lead into Great Britain were 27,819 tons, including 6251 tons from Australia. The exports were 3366 tons.

Spelter.—The spot quotations for spelter, as cabled from London, have run as follows:—July 4, £25/8/9; July 10, £25/1/3; July 17, £24/11/3; July 24, £24/13/9; July 30, £25/1/3; August 3, £24/13/9.

Tallow.—Following are the statistics for July and particulars of the latest auction sales:—

July	Casks	Date	Casks Offered	Casks Sold	Mutton Med.. per cwt.	Beef Med. per cwt.
Imports	1382	July 4	448	338	38/6	38/6
Deliveries	1165	" 11	837	300	38/6	38/6
Stock	1536	" 18	694	281	38/6	38/6
		" 25	678	330	38/6	38/6
		Aug 1	Nil			

Mighty London.

With a population exceeding that of the whole Commonwealth, London has 2200 miles of streets and over 20,000 police constables to patrol them. It has 350 miles of tramway lines, although none of them come into the city proper. The busiest traffic spot is Hyde Park Corner, where roughly 55,500 vehicles pass every day. Trafalgar Square, Marble Arch, and Piccadilly Circus are the next busiest places.

Piecework Prejudice

How a manufacturing firm that was successfully carrying on operations under a piecework system was deprived of that system officially to the disadvantage of all concerned was related to the Royal Commission on Child Endowment in Melbourne on July 19. The witness was Mr. William Adam, industrial officer of Pelaco Ltd., the well-known shirt and collar manufacturers, and his evidence was as follows:—

Among the steps taken by the company to pioneer the industry about twenty years ago was the setting of piece rates to enable the average operator to earn 33 1-3 per cent. more than the legal wage provided under the weekly wage system. This method was successful, being based scientifically; our employees earned higher wages and we obtained a lower cost, which enabled us to sell at a lower price. In this way the company increased steadily. The method of fixing piecework rates was that provided under section 144 of the Victorian Shops and Factories Act, and was so successful that during the nineteen years it was in operation not one minute was lost in our factory through industrial disputes of our own. In the recent Arbitration Court case affecting the clothing industry we pleaded with the judge to re-enact the piecework clause, but it was altered. We say that in actual practice the new clause is unworkable, and we can state definitely that most of the factories in which piecework was adopted have changed to weekly wages since the coming into force of the new award. The reason is that in addition to piecework a guaranteed weekly wage is also provided; the fact that piecework rates have to be based on an amount 10 per cent. above the weekly wage should be sufficient. Again, the provisions for fixing piecework rates are too involved to be practised. The setting of rates is a science, and cannot be adequately settled by some rule of thumb method or by an armchair conference with one or two employees. Obviously every firm has not the same standard of efficiency, consequently piece rates for the same operations will vary in different factories. A new danger arises in that a comparison of rates will be made and a dispute, real or engineered, will arise, with the inevitable reference to the board. Another startling innovation in the new award is clause 30, which provides that employees cannot be dismissed because of slackness of trade. When using massed production methods it is impossible to use a turn system. Times will always occur, even in normal periods, when the services of employees cannot be used to a 100 per cent. capacity. The new clauses and provisions are bewildering to manufacturers, so we now work on the weekly wages system. Our views are that every increase in wages and taxation, shortening of hours and innovation must necessarily be borne by production, and we are of the opinion that the burden is now just a little more than the industry can bear. One cannot get more than 20 fluid ounces out of a pint, and any further attempt to add to the burdens, either by way of child endowment or insurance for unemployed, is going to make the position extremely serious.

In reply to inquiries, Mr. Adam said that since the introduction of the new award, and because of it, the number of their employees had been reduced from 650 to 500. Their cutters used to earn as much as £10 a week; now they receive the award wage of £5/5/-. Nobody was better off under the new condition of affairs and he could not imagine the employees accepting the results without protest. The award was only a few weeks old.

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney Aug. 1	Melbourne Aug 3	Adelaide July 31	Brisbane Aug. 1		Duty	Sydney Aug. 1	Melbourne Aug 3	Adelaide July 31	Brisbane Aug. 1
Pig Iron ...	20/ 40/	£	£	£	£	Zinc—		£	£	£	£
British		...	7 5/	7 10/	...	Sheet 9 to 18g	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.
Lithgow		7 10/	7 5/	...	...	(7 x 3 & 8 x 3)		4/9	7	...	5/6
Newcastle		7 10/	7 5/	7 10/	21	Perforated	35%, 45%	32	...	54'	...
Bar and Rod	44/ 120/	23 basis	English 21	17 10/	22 10/ basis	Spelter	10%, 20%	301.10/ to 37	41 to 42	...	40/
Australian		...	18/6	...	...	" Elec...		1/9	1/5	...	1/9
Mild Steel	44/ 120/	19 basis	19/ basis	19 10	18	" Brazing	25%, 40%	...	...	...	...
Bar		19	18	20	19	Bolts & Nuts—		...	...	...	...
Angles		22	18	21	20	Cuphead	35%, 50%	75/ 59/	63/ 47/ 41/	41/- 38/	26/3 to 73/
Tees	F., 10%	20 basis	19 basis	19/	21/ basis	"		76/ 57/	61/ 46/ 39/	41/- 36/	
Hoops		29/9 basis	32	33/	32 10/	"		70/ 54/	56/ 43/ 37/	40/- 34/	
Black		25	24 10/	25	25 5/	"		65/ 49/	52/ 39/ 35/	37/- 33/	
Galv.		26 10/	26	26/10	28 15/	"		61/ 47/	49/ 38/ 34/	36/- 31/	
Galv. Corr. 24g.	20/ 60/	26 10/	26	26/10	28 15/	"		59/ 45/	47/ 36/ 32/	33/- 30/	
Orb 26 g		...	...	...	...	Tanks, 400-gal.	Free	6 10/	5	5 10 0	5
"		...	...	...	...	200-gal.		3 10/	3	3 10 0	3 10 0
Phoenix Cr.		26	26	27 5/	28 15/	Tubing—	F., 10%	55 off list	55% off	58% off	List 45% off
Galv. Plain 24g.	20/ 60/	30/	26 5/	28	27	Black, up to 3"		27 1/2	60% off	60% off	35 off
Queen's Hd.		27	26 5/	28	27	" 3 1/2 & up		50	55% off	48% off	.. 5% on
Phoenix Cr.		26 5/	25 15/	27 15/	26 10/	Galv. up to 3"		27 1/2	55% off	48% off	.. 40% off
Fleur-de-lis		...	...	...	40	" 3 1/2 & up		40	37 1/2 off	37 1/2 off	Less 5% off
Other	F., 125/	26 basis	25 basis	25/15	26	Steam, up to 3"		27 1/2	37 1/2 off	37 1/2 off	.. 5% on
Sheet		B26, G34 5'	26 10/	...	19	" 3 1/2 & up		...	5% off	20 off	List
Black		17/- basis	15 basis	15	15 10/	Wr'ght boil.	F., 5%	...	10% on	...	...
Baldwins	F., 120/	19/6	21	19	20/-	Explosives	10%	1/-	10d.	1/-	5/
Plate		18 5/	18 5/	...	...	Hall's C.C.		10d.	10d.	11 1/2	1/1
Steel		14 2/6	14	15 10/	14 12/9	Curtis's		10d.	10d.	11 1/2	1/1
Girder	F., 120/	15 18/	16 5/	18	16/10/6	Chilworth's	15%, 25%	3/6 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/
Fencing Wire		16 9/	17	16/8	16/8	Sporting		10/	8/ to 8/6	8/3 to 8/6	8/3 to 5/
American		18 12/6	18 10/	20/ 5	19/2/	Diam. Sless		8/6	7/ to 7/6	6/9 to 7/6	75/
Austra'n 8 Bl.		14 13/6	15	16	16/10/6	Amberite	F. 5%	72/6	74/6	74/6	78/6
Galv.		15 18/	16 5/	18	16/8	Blast'g Gel.		65/	66/	66/	71/-
"		16 9/	17	19	16/19/	Gel. Dyna.		56/ to 60/	56/ to 59/3	54/6 to 58/6	62/ to 66/
"		18 12/6	18 10/	20/ 5	19/2/	Celignite		41/ to 51	51/ to 57/	48/6 to 51/6	58/ to 102/
Barbed Wire,	68/ 180/	24	...	...	...	Dynamite	15%, 25%	61/	55 to 60/	60/ to 85/	90/
Amern. 12-g.		25 10/	22	22 10/	12-24 8/9	Detonators		61/	55 to 60/	60/ to 85/	90/
Austn. 12-g.		24 10/	23	23 10/	12-25 10/	Shot—Chilled	5/ 6/	63/6	66/	68/	...
" 13-g.		26	24	25	14-25 19/9	Australian		61/	56/	68/	...
" 14-g.		24	22	23	...	Cyanide Pot.	Free	7/6	1/6	5/8	1/4
" 15-g.		24	23	24	...	Quicksilver	Free	15/	15/	16/6	18/6
Wire Netting	F., 200/	£48/15/0	48/10/0	38	43/ 5/9	Sash Weights	35%, 45%	60/	65/	60/	60
42 x 12 x 17	per. ton	£39/ 5/3	39/10/0	45	34/ 5/9	Sheep Shears	F., 10%	21/ cask	21/	21/-	21/ cask
42 x 12 x 18		£41/16/0	41/15/0	38 10/	41/16/	Cement—Imp't'd	20%, 30%	37/6 K.W.	38/	47/6	50/ cask
42 x 12 x 19		£33/ 2/0	34/ 0/0	33 2/	33/ 2/	Aust. (bags)		Pixie 35/-	8/	9/3	18/ bag
36 x 12 x 17		£41/16/0	42/ 0/0	...	41/16/	Plaster, Imp.	1/6, 2/c	...	...	...	...
36 x 12 x 18		£33/10/6	36/15/0	...	33/10/	" Aust.		...	...	...	...
36 x 12 x 19		£35/13/0	36/ 0/0	28	35/13/	Slates (20 x 10)	30%, 40%	...	...	...	...
36 x 12 x 18		£29/10/0	29/15/0	20 15/	28/ 9/3	White Lead—	8/ 10/ or	63/6	62/	64/-	60/
Nails—		...	...	...	...	Imported	25%, 30%	67/	60/	60/	58/
Horseshoe	12/ 15/	Less 10%	to 1/ lb.	1/ less 10%	List Price	Australian		70 to 100	...	...	72/ to 80/
Wire	5/6, 8/	...	...	...	To less 10/	Zinc White	20%, 30%	...	...	...	Colonial 56.
Roofing—	or 25% 35%	22/6 basis	18/ to 20/	24/6 to 35/	26/- basis	Oils—		...	...	...	...
Evenden	5/6, 8/	65/- cwt	65/cwt., 9/6	9/-	11/	Linseed (raw)	9d., 1.	R5/	5/4	Drs., 5/9	5/3
Lead-head		...	...	...	38/	Imported		C4/6 D5/6	5/6	Drs., 4/9	4/7
Block Tin	Free	£215/ 0	220	238/	8/	Australian	6d., 8d.	...	6/-	...	...
Tin Plates	F., 10%	112's 60/-	62/6	112's 52/6	27/	Burning	9d., 1/	...	...	...	6/10
I.C. Coke	28 x 20	35/-	70/	...	42.	Castor—	4-cases	C 6/6	6/3	6/9	...
I.X. Coke	56s	...	...	...	...	China	2s., 2/6	...	8/	...	10/
Pig Lead	Free	25/6	28	29	37/10	Cotton seed	6d., 8d.	...	8/6 to 10/	...	12/6
Sheet Lead	10%, 20%	40/	38	43/6	49/	Kero.—C.O.R.	Free	...	13/	...	12/6
Dampcourse		4 1/2 6/6	48	...	...	Laurel		...	13/6 to 14/6	13/	12/6
2 lb.		4 1/2 9/9	47	...	...	Light of Age		...	13/6 to 14/6	13/	12/6
3 lb.		...	...	...	...	Pennant		...	13/6 to 14/6	13/	12/6
Lead Pipe—	10%, 20%	45/	47 10/	46 5/	58/6	Turpentine	F.	4/9	4/9	4/10	4/7 1/2
2 to 2 1/2 in. coils		47/	52	48 15/	60/	Substitutes	3d., 1d.	3/	18/ per case	2/8	2/6
Lengths to 5'		50/	51	48 10/	57/	Shellac		3/6	2/6	3/4	3/-
Compo. 1/2" & up		...	...	...	...	Whiting—	6d., 9d.	...	...	...	...
Copper—		...	...	...	...	English		8/-	8/6	9 10/	£10 ton lots
Ingots		...	70	78/	10d.	Colonial		6/3	4/9	5/	6/8
Sheet	25%, 40%	1 1/2	1/7	1/8	1/8	Resin, G grade	Free	32/6	32/-	28/	24/6
Brass		1/3	1/2 to 1/6	1/6	1/6	Carbide—	80/ 150/	32/6	27/ 6	29 5/	29 7/6
Sheet	25%, 40%	...	...	...	...	" I X L "		34/-	32/10	33 10/	33
		...	...	...	...	Scandinavian		...	...	...	...
		...	...	...	...	Canadian		...	...	...	...
		...	...	...	...	Japanese		...	...	...	...
		...	...	...	...	Bluestone	100/ 200/	...	...	...	...
		...	...	...	...	Macclesfield		37/6	37/6	...	40/
		...	...	...	...	Australian	36(1 cwt c/s)	...	...	...	...
		...	...	...	...	Japanese		...	...	...	...
		...	...	...	...	Stock, Tar, 42 g.	35%, 35%	...	1/5	60/-	...
		...	...	...	...	Woolpacks—	Free	...	...	...	...
		...	...	...	...	42 x 1 1/2		4/6 1/2	4/6	4/9	4/9
		...	...	...	...	54 x 1 1/2		...	...	...	...
		...	...	...	...	Cornsacks—	Free	...	...	...	...
		...	...	...	...	2 1/2 lbs. (Oats)		11/	11/	11/6	11/9
		...	...	...	...	2 1/2 lbs		9/9	8/6	10/-	10/7
		...	...	...	...	Branbags	Free	...	...	...	...

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

Mr. H. E. Uttley has removed from 127 York-street, to larger showrooms and offices at Margaret House, 282 George-street, Sydney.

Firms Registered

Hoskins Foundry, ironfounders, Wallace-street, Balmain; proprietor: William J. Hoskins.

Browne, Corke & Co., general storekeepers and merchants, Tocomwal and Finley; proprietor, Robert J. Barton.

Hocking Indestructible Electric Water Heaters, water heater manufacturers, 282 Abercrombie-street, Redfern; proprietors: William H. Hocking, Arrol T. Burton and Harry E. Gunter.

Company News

Mort's Dock & Engineering Co. Ltd., made a net profit of £29,407 for the year ended June 30 last, which is considerably less than the earnings of the previous twelve months. Even so, the 5 per cent. dividend is maintained and as on a capital of £650,000 this involves a distribution of £32,500, the carry forward is reduced to £4749.

Murreys (Grafton) Ltd., have been registered with a capital of £10,000 in £1 shares. Objects: To acquire and continue the business carried on under the style of "Murreys" at Grafton, as merchants and retail storekeepers, etc. Subscribers: Attle A. A. K. Murray, Spencer B. Keough, G. M. Keough, Frederick Groves, E. Simpson, A. A. Murray and W. N. Kennedy. Reg. office: Grafton.

New Zealand

H. J. Ryan Ltd. have been registered with a capital of £2000 in £1 shares. Objects: Iron and brass founders, electrical engineers and incidental. Subscribers: H. J. Ryan, J. S. Ryan, E. Ryan and W. H. Ryan.

Queensland

Company News

Coutts (Wholesale) Ltd., have been registered with a capital of £5000 in £1 shares. Objects: To carry on the business of general wholesale merchants, traders, storekeepers, grocers, fruiterers, ironmongers, wine and spirit merchants, importers, exporters and booksellers, etc. Subscribers: Charles Coutts, Sidney G. Little, Henry B. Coutts, Charles L. Coutts, Robert A. Coutts, Henry K. Tully and Francis R. North. Reg. office: Ayr.

Freeney Davidson & Co. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To carry on the business of ironfounders, mechanical engineers and manufacturers of agricultural implements and other machinery, tool makers, brass founders, metal workers, boiler makers, etc. Subscribers: James P. Freeney, James W. Davidson, Eric C. Fernandez, Neville V. Henderson, James Cook, Archibald M. Bell and Thomas G. G. Lahey. Reg. office: New Zealand Chambers, Queen-street, Brisbane.

South Australia

Trigg Bros., brass moulders, finishers and general engineers, Marleston-avenue, Keswick, announce that Henry Arthur Trigg has retired from the firm.

The Implement Co., dealers in machinery and implements and house furnishers, 132-37 North Terrace, Adelaide, have been registered under the Firms' Act; proprietors: Harris, Scarfe Ltd.

W. H. May & Sons, engineers, iron and brass founders and general merchants, Wallaroo, announce that John May and Henry May have retired and that Helen May May has become a member of the firm.

Crude Oil Tractors Ltd. have been registered with a capital of £50,000 in £1 shares. Objects: To acquire the business of importers and distributors of tractors at present carried on at Adelaide under the style of The Crude Oil Tractor Co., including the concession for the distribution of Lanz Bull-Dog Tractors, in South Australia, and for that purpose to adopt a certain agreement, etc. Subscribers: Percy Strangways Day Barker, Amos McBurney, Alfred Samuel Haigh, Edmund Albert Charles Brooks, Harold Hercules Pittman, and Robert Simpson Thompson. Reg. office: Edment's Building, Rundle-street, Adelaide.

Tasmania

W. Hart & Sons Pty. Ltd. have been registered with a capital of £50,000 in £1 shares. Reg. office: Launceston. (This is consequent upon the winding up of the old company of the same name and the sale of the business to D. & W. Chandler Ltd., of Melbourne. The business will be managed by Mr. W. W. Bennell, and Mr. C. Hart is also one of the principals.)

Victoria

Thos. Abbott & Co., electric bath heater manufacturers, are now located at 13a Hardware-street, Melbourne.

Firms Registered

Richmond Hardware Co., ironmongers, 298 Bridge-road, Richmond; proprietor: Charles Robert McNaughton.

Berliner & McDonald, hardware and crockery merchants, 364a Little Collins-street, Melbourne; proprietors: Alfred Lewis Berliner and Colin Leslie McDonald.

Company News

Langwill Bros. & Davies Pty. Ltd. are in voluntary liquidation. P. J. W. Danby is the liquidator.

Ideal Wire Mattress Pty. Ltd. have been registered with a capital of £2000 in £1 shares. Subscribers: Albert Edward Scammell, Leonard James Baker and Herbert Allsop. Reg. office: 181 Malvern-road, Malvern.

M. G. Dyke & Sons Pty. Ltd., manufacturers of safes, strong-rooms, fireproof partitions, etc., have been registered with a capital of £5000 in £1 shares. Objects: To acquire the business of M. G. Dyke & Sons. Subscribers: George Henry Dyke, Henry Joseph Dyke and Margaret Dyke.

G. S. Frean Pty. Ltd., have been registered with a capital of £15,000 in £1 shares. Objects: To acquire from George Siderfin Frean the business of timber, hardware and general merchants, etc., carried on by him at Mornington. Subscribers: George Siderfin Frean and Elsie Laura Frean. Reg. office: Barkly-street, Mornington.

Dane, Taylor & Co. Pty. Ltd., general merchants, etc., have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going con-

cern the business carried on under the style of Dane, Taylor & Co. Subscribers: John Edward Dane and Thomas Taylor. Reg. office: 501-503 Latrobe-street, Melbourne.

C. & E. Johnson Pty. Ltd. have been registered with a capital of £5000 in £1 shares. Objects: To acquire as a going concern the business of hardware and fancy goods merchants carried on by Johnson Bros. Subscribers: Clement George Johnson and Earlsford Osband Johnson. Reg. office: 411 Burke-road, Camberwell.

Nhill Stores Ltd. have been registered with a capital of £50,000 in £1 shares. Objects: To convert the Nhill Co-operative Society Ltd. into a company and to acquire as a going concern the business. Directors: James Rintoule, R. B. Turner, Robert Blackwood, J. L. Judd, Angus McIntosh, Alf. H. Schultz and Peter Bone. Reg. office: Victoria-street, Nhill.

Williams' Ironworks Pty. Ltd. have been registered with a capital of £5000 in £1 shares. Objects: To acquire the business of engineers, bold and nut manufacturers, etc., carried on by H. Williams & Co. Subscribers: Frederick Rudolph Dawborn and James Stewart. Reg. office: Weston-street, Brunswick.

Austral Wire Fence & Gate Co. Pty. Ltd. have been registered with a capital of £15,000 in £1 shares. Objects: To acquire as a going concern the business of Austral Wire Fence & Gate Co. Subscribers: Frederick William Millard, Reginald Neale Millard, John Alfred Millard, and Ivie May Vass. Francis Seddon Millard, Frederick William Millard, senr., and Frederick William Millard, junr., are also directors. Reg. office: 38 Austral-avenue, West Brunswick.

Australian Iron & Steel Ltd. have been registered with a capital of £5,000,000 in £1 shares. Head office: Kembla Building, Margaret-street, Sydney. Agent in Victoria: Frederick William Trotter, 203 Grant-street, South Melbourne. Directors: Cecil Harold Hoskins, Sir Arthur John Dorman, Bt., Sir W. Charles Wright, Bt., Lawrence Ennis, Harry Bellingham Howard Smith, Edwin Harold Flack, Arthur Sidney Hoskins and Arnold Stanley Taylor.

Western Australia

J. H. Inverarity & Co., High-street, Fremantle, have now added general hardware and builders' hardware to their business.

A. B. Farrington & Co., hardware merchants, etc., High-street, Fremantle, have disposed of portion of their stocks to J. H. Inverarity & Co., Fremantle, and C. R. Farrington has taken over the balance of the late firm's stock, and is opening business as a hardware merchant, etc., in George-street, East Fremantle.

Firms Registered

Birch & King, general storekeepers, Wubin; proprietors: Samuel Theodore Birch and James Henry King.

Sharp & Walker, general storekeepers, Victoria-street, Bunbury; proprietors: Harry Walter Sharp and Walter Walker.

Holtom & Co., safe manufacturers and general iron workers, 696 Wellington-street, Perth; proprietors: Fred. Holtom and George Frederick Holtom.

H. E. Lindsay & Co., general storekeepers, Greenbushes; proprietors: John Lindsay, Harold Oswald Lindsay, Ronald Theodore Lindsay, Huntley Edward Lindsay and George Seddon Lindsay.

Company News

Kemsley Co. Pty. Ltd. have removed to 1st Floor, New Zealand Chambers, St. George's Terrace, Perth.

Hume Steel Ltd. are erecting a factory at Salvado-road, Subiaco, for the manufacture of steel pipes.

Agents and Agencies

B. K. Morton Pty. Ltd., whose location at 150 Queen-street, was mentioned in our last issue, have found more convenient offices in Russell House, 452-60 Flinders-street, Melbourne.

T. A. Powell & Co., of 31 Chesser-street, Adelaide, have been appointed South Australian representatives for Sterling Varnish Co., Huntly-street, Alexandria, Sydney.

Ryall & Brock, of 360 Post Office-place, Melbourne, have been appointed agents for Mr. G. W. J. Blackman, of Charleroi, Belgium. Mr. Blackman controls a large group of factories and is well known throughout Australia as a shipper of iron and steel in sheets, bars and special sections, steel window frames, glass in sheets, figured and special, and white or opal tinted glass, marble in slabs and tops, tiles, white and tinted, table glassware, putty, bed tickings, mattress wire and upholsterers' webbing, and boot and shoe laces.

Mr. W. G. South, of W. G. South & Cowan Ltd., 352 Kent-street, Sydney, has taken over the N.S.W. agency for Schutze Steffens & Co., export merchants, of Hamburg. Registered as South's Agencies, at 60 York-street, Sydney, the new firm will be managed meantime by Mr. W. R. Greenwood, but in March next Mr. South will retire from the directorship of W. G. South & Cowan Ltd. to devote his whole time to the Schutze Steffens agency, although for some time longer he may retain a financial interest in his old company.

Travellers

In New Zealand

Mr. Percy A. Lyttle of Walter A. Cox Ltd., 195 Clarence-street, Sydney, leaves for New Zealand on August 10 by the S.S. "Marama" in the interests of the various manufacturers represented. His address while in the Dominion will be C/o the New Zealand Express Co., Wellington.

In Queensland.

Mr. George Craig Brown, of Scott Henderson & Co., 9-13 Young-street, Sydney, will be at the Commercial Travellers' Club, Brisbane, in August with a full range of samples.

In South Australia

Mr. C. Deutgen, of Grotjan & Co., Hosier-lane, Melbourne, will visit Adelaide about the middle of August, with a complete range of samples from the manufacturers represented by his firm, and will show these at Gay's Arcade.

In Victoria.

Mr. Leslie J. Pain, of 209 Castlereagh-street, Sydney, will be at Commerce House, Flinders-street, Melbourne, from July 6, with representative ranges of pottery and crystal-ware and "Tower" aluminium-ware.

In Western Australia

Mr. J. L. Walters, of J. L. Walters Ltd., 222 Clarence-street, Sydney, will be showing a full range of samples in Melbourne from August 6 to 14 and in Perth from August 22 to September 1.

Manufacturing Section

Big Order for Petrol Pumps.

Contracts for the supply of some 800 petrol pumps at a total cost approximating £75,000 have been entered into by the Purcell Engineering Co. Ltd., of Auburn, Sydney. They are for companies operating in different parts of the Commonwealth and will keep some two hundred men employed on their manufacture for over a year.

Queensland Aluminiumware.

At their factory in Russell-street, South Brisbane, the Vulcan Can Co. Ltd., have taken up the manufacture of aluminiumware and are finding a market in the State for all they can turn out. Pressed and spun articles of household use are being produced on machines installed for the purpose—baking dishes, meat dishes, bowls, basins, frying pans, cutlet pans, pie dishes, colanders, steamers, billycans and other articles. These are available in various shapes and sizes and the finish and general appearance of the articles reflect credit on the makers.

Special Castings.

A modern plant for the production of high-grade malleable castings as well as grey and ordinary cast iron foundry of special quality is now in operation by Donaldson, Slattery & Co. at 2-16 Nicholson-street, North Fitzroy, Melbourne.

The firm are now turning out malleable iron, particular attention being given to the technical processes and details. For some years Australia has been producing this material, with varying success. While good work has been done in some directions, there have been cases where much was still left to be desired. It was recognised that to make the special qualities at which the firm aim it was necessary to conduct tests of all ingredients used "from the ground up." In the first place the pig iron must be manufactured to a definite standard and supplied to their precise analysis as laid down by experts and proven by years of experience in this class of manufacture. The type of sand used is also of importance. To make fine-grade castings with indifferent sand would be impossible, no matter how good the iron, or how carefully the various processes are pursued. It has been found imperative to submit all the sand to rigid examination, choosing that from special veins only.

The samples of malleable castings shown by the firm are of very fine grain, capable of passing all the required tests and finished in a creditable manner. Tests carried out by independent experts showed from 22 to 22.85 tons per square inch tensile strength.

Another shop for the production of grey and general castings has also been established and is now in full swing. Here again the plant is on modern lines, and castings of a class altogether away from the usual grades are being supplied. These are suitable for machining of a high order, and carry guarantees for various definite purposes. In the machine shop, which is equipped with many tools which represent the last word in the trade, various manufactured articles will be produced. Two of these machines may be mentioned as examples of the new plant. One is a big multi-spindle drill capable of drilling simultaneously twelve holes of $\frac{3}{4}$ in. diameter in mild steel, and in cast iron still larger sizes. There is also an automatic self-indexing universal spiral grinder, one of

the first of its kind installed in this part of the world.

In another column is a description of an offset vyce which is already being made in the shop.

Electric Meter Factory.

Spray showers, tiled bathrooms, automatic drinking fountains, rest rooms, safety devices, and an air-cooling system are some of the most important features designed for the comfort of those employed in the five-floor factory at Waterloo, near Sydney, of the Electricity Meter Manufacturing Co. Ltd. Another noteworthy circumstance is that an abundance of natural light is shed into all parts of the building through the steel-framed glass windows. In fact, the greater parts of the walls are of glass.

The products manufactured are much more varied than the name of the company indicates, and include radio parts, electric refrigerators, petrol pumps, electricity meters, magnetos, house-lighting plants, fractional horse-power motors, motor car accessories, and "Bakelite" products in all forms.

The buildings stand in three acres of land and are so constructed that the accommodation can be trebled when the necessity arises.

Accommodation for the office staff is provided on the ground floor near the main entrance, and includes a rest room for the female members. On the second floor are the offices of the managing director and his co-directors as well as the board room, and here also are two laboratories equipped with modern scientific apparatus for the carrying out of research investigations. The ground floor of the factory is 320 ft. long by 60 ft. wide, practically the whole of the sides being given up to window space. There are separate entrances for the male and female employees, and nearby is a cafeteria, where refreshments are supplied at low charges. One end of the floor, which contains also the main store and three sub-stores, is given up to the huge stamping machines, which stamp out the laminations for transformers and the metal used for the electricity meters. The tool and die room and the experimental department occupy a large space, the tools and dies being enclosed in a fire-proof vault.

Increased business of late has necessitated the number of "Bakelite" machines being doubled, and the most intricate and delicate forms of work used in radio and electrical manufacture are being turned out.

The first floor is given over to turret lathes, coil winding and the manufacture of the many delicate parts used in the construction of the firm's "Beta" watt-hour meters. On this floor hundreds of girls operate the machines used for winding the hair-like wire on transformers used in radio work and electricity meters.

One floor is entirely devoted to the assembling of the "Emmco" radio parts, a large staff being employed upon this work alone.

Meter assembling is done on the top floor, all the meters, when completed, being sent by automatic conveyor to the other end, where they are tested under Government supervision.

Many of the improvements which the company has installed are due to Mr. J. Scharlt, the managing director, who, in a twelve months' tour abroad, made exhaustive investigations into the largest engineering enterprises in Europe and the United States.

The factory is self-supporting from foundry to testing room, every tool and instrument, and even the paint being made on the premises.

Machinery

Portable Filing Machine.

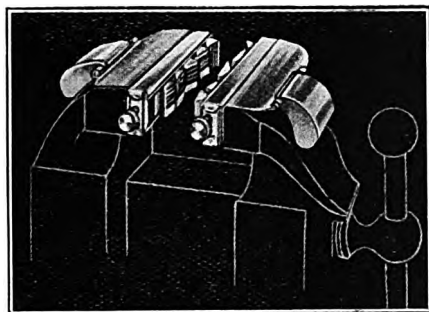
The Cochrane-Bly Co., of Rochester, N.Y., U.S.A., are placing on the market, a portable or bench filing machine.

This machine is mounted on a pedestal having castors and an elevating track so that the column can be raised off the floor. It can thus be moved easily to any suitable place for operation.

Vyce Grips.

Odd-shaped pieces can be held in the vyce by means of the "Universal" vyce grip, a device introduced by the United Hardware and Tool Corporation of 74 Reade-street, New York City, U.S.A.

The vyce-grips consist of a pair of detachable compensating jaws that can be used in a vyce to hold any shape. They are placed in the regular vyce-jaws and accommodate themselves to the shape being held. The shape may be round, square,



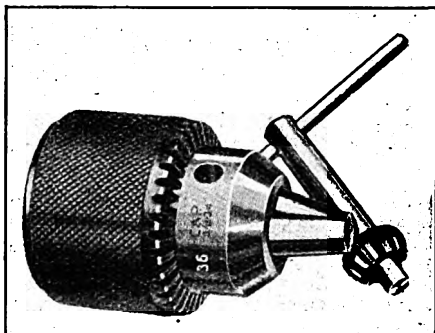
curved, angular, or tapered, and it is claimed there is no danger of marring or jamming any work.

The grips are made of hardened and polished steel, and will stand any pressure to the limits of the vyce. They are made in two sizes, Nos. 4 and 5, to suit vyces ranging from 3 to 6 in.

Drill Chuck.

The Jacobs Manufacturing Co., of Hartford, Conn., U.S.A., have added a new model to their line of plain-bearing, keyed drill chucks.

The new model known as No. 36, has a capacity to hold drills from 3/16th to 1/2 in. in diameter. It is designed especially for use in connection with



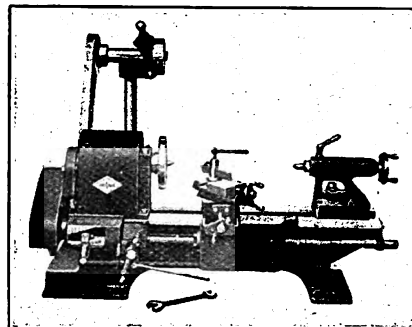
portable tools, in which field it has hitherto been necessary to use taper-shanked drills for holes 1/2 in. in diameter and over.

The weight of the chuck is 2 lb. 12 oz., which is but little more than that of previous chucks of

1/2 in. and 5/8 in. capacity. By means of this chuck it is possible to handle in portable tools not only straight shank drills, but taps, reamers and the spindles of honing devices.

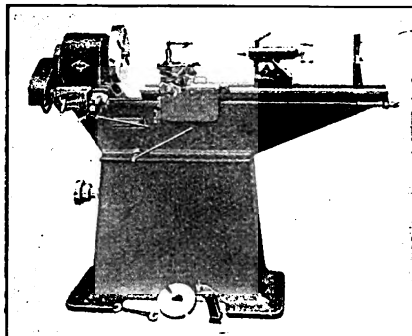
New Lathe Models.

Two models have been added to the line of lathes made by the Artisan Manufacturing Co., of 859-61 Hathaway-street, Cincinnati, Ohio, U.S.A.



Known as the "Junior" and "Master" respectively, both models are equipped with standard features of the line such as head and tailstock, carriage and screw-cutting unit. Because of these interchangeable features of the various units these machines may be equipped with either plain or compound rest, hand-feed and either loose or quick-change gears.

The "Junior" has a unique motor drive unit; a shelf is cast integral with the bed, and on this

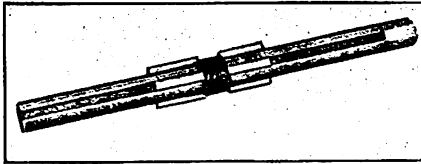


the counter shaft unit is mounted. This is supplied with the machine whether belt or motor driven. When motor driven, a 1/2 h.p. motor is mounted on the shelf and belted to the tight and loose pulleys on the countershaft above. The machine has a swing of 11 in. and a distance between centres of 18 in.

The "Master" engine lathe has a simple and efficient motor-driven unit. The countershaft forms a part of the machine. A 1/2 h.p. motor is furnished for the motor drive, and is mounted on a sliding base within the cabinet leg and belted to the friction-clutch pulley on the counter-shaft. The sliding-motor base forms a means of compensating any belt stretch. A sheet-metal apron is fastened within the cabinet leg and extends over the counter-shaft to prevent chips from falling on the friction clutch and other working parts. The machine is built with an 11 in. swing and has a centre-distance of 36 in. It is furnished with a compound rest.

Expanding Mandrel.

The principle involved in an expanding mandrel, recently introduced by W. G. LeCount, of South Norwalk, Conn., U.S.A., is very simple. At equidistant intervals around the circumference are cut four longitudinal spline-ways, the bottoms of which are inclined with respect to the axis of the mandrel, and in each spline-way is a sliding key tapered upon



the bottom to correspond with the incline. The exposed edges of the keys are ground parallel.

Midway of the length of each key is a rectangular notch deep enough to permit the introduction of a collar that is smaller in outside diameter than the smallest hole to be accommodated by the mandrel. The tool is assembled by placing the four keys inside the collar, entering the ends of the keys in the respective spline-ways and sliding them together upon the body. The collar prevents the keys from being displaced, yet permits them to slide freely.

Mandrels are regularly furnished in sets of four, accommodating holes from 1 to 2½ in. diameter. The amount of taper given to the bottom of the spline-ways is not the same for all tools, but is so calculated that the largest hole accommodated by one mandrel is the same size as the smallest hole that will go over the next larger size of mandrel, thus preserving an unbroken range between the limits of the set.

Electric Socket Wrench.

Separate driving spindles for forward and backward drive are features of the No. E.W. 100 electric socket wrench recently introduced by the Van Dorn Electric Tool Co., of Cleveland, Ohio, U.S.A. Thus a positive drive is provided under full power in either direction.

A multiple-disc clutch operated by a slight pressure of the lever in the handle engages the motor, which transmits its power through a worm gear to the driving spindles. When the clutch lever is released the worm and gear automatically lock the spindle, thus producing a hand wrench for the final setting.



Practically any size of nut, bolt, or cap screw that runs free can be handled by this unit, which is particularly recommended for either hexagon or square nuts not exceeding 1½ in. across the flats. A complete set includes an electric wrench, on 3 in. socket adapter, on 11 in. socket adapter, on nine

hardened alloy steel wrenches of 7/16, ½, 9/16, 5/8, 11/16, ¾, 7/8 and 15/16 in. hexagon and 9/16 in. square. All are contained in a metal box.

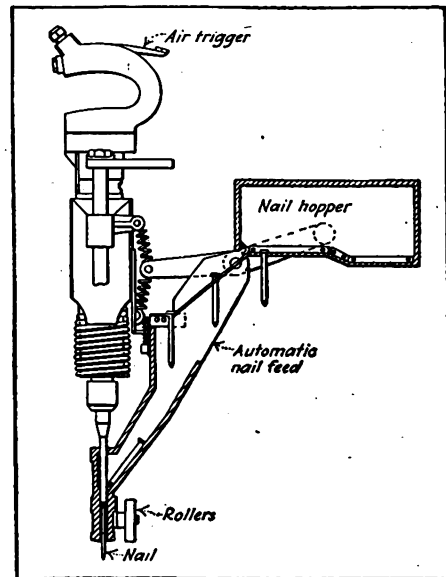
The overall length of the unit is 16 in., the width 10 in. and the weight 14 lb. The unit is regularly supplied for use on 110 and 220 volt circuits.

Automatic Nailer.

For driving three nails simultaneously on crate or box work, the "Triplex" automatic nailer has been introduced by the Duplex Automatic Nailer Co., of Logansport, Ind., U.S.A. The nails are driven on 1½ in. centre distances.

The machine will drive 60 nails per minute, while hourly production will fall between 3000 and 3600 No. 8 cement coated or common nails. The apparatus is light in weight, but has sufficient strength to withstand heavy duty continuous work.

The nails are placed in a hopper without regard to arrangement, this hopper being provided with



slots through which the nails find their way due to the up-and-down motion of the hopper and mechanism. As three nails are driven, three more are released and fall into the nail pockets. When the machine reaches the next point the hammer is raised sufficiently to allow the nails to fall into the tubes. The hammer is then lowered, and air under pressure is admitted. It is claimed that no nails are bent while being driven. The machine requires air in quantities comparable to those demanded by other small pneumatic tools. It does the work of three men.

A cross sectional view of the nailer is seen in the illustration.

Fusion Welding Electrodes.

The Fusion Welding Corporation, of 103-street and Torrence-avenue, Chicago, Ill., U.S.A., have announced two mild steel welding electrodes, known as "Blue Streak" and "Yellow Jacket" respectively.

"Blue Streak" is a fast-blowing electrode, melting more rapidly than the fast blowing bare wire, and yet having greater arc stability than the flux-coated rod. A full flux-coated electrode, it is claimed to be specially suited to the welding of medium and light gauge plates and sheets.

The "Yellow Jacket" electrode is surfaced, and is designed to give great penetration when used with high current on heavy material. Half-inch mild steel plates have been welded at a rate of more than 20 ft. per hour without bevelling the edges.

Building and Furnishing

Buyers' Notes for Retail Dealers

Sydney

Mr. Harry Boyle, of 55 York-street, Sydney, is making a special display of Corbin builders' hardware. Bolts are supplied a dozen in a box and are of wrought steel, with bronze plated knob. A varied assortment of night latches is on hand, most of which are shown in new patterns, both reversible and ordinary styles being stocked. Worthy of note is a ball bearing cylinder latch in a japanned iron case, the bolt being of cast bronze, and with a wrought bronze knob. Three nickel silver paracentric keys go with each lock. A fine assortment of rim lock sets is carried in reversible style made of japanned cast iron, and both horizontal and upright pattern. Screen door handles are shown in antique copper.

Leopold Barnett & Co. Ltd., of 306-08 Pitt-street, Sydney, hold large stocks of the latest shapes and finishes in builders' and cabinet makers' locks and fittings. A large assortment of tiles is a feature of the firm's display, a variety of tints being available. Plywoods of local and overseas manufacture are stocked in all standard thicknesses, and laminated plywoods with vertical inner piles for use in flush door furniture are on hand, the sizes ranging from $\frac{1}{4}$ in. to 1 in. Mantel pieces are coming again into favour, and some fine samples are on show, one particularly noticeable having a scroll copper front with tiles on each side to harmonize with those on the floor. Porcelain enamelled baths and basins are made in colours to match the walls and floors, the taps being finished in the same material. Bathroom fixtures are in all modern styles and finishes, a special feature being made of the "Recesso" fixtures in white and coloured enamel.

Brandts Ltd., of 236 Pitt-street, Sydney, are showing wrought iron lamp brackets for halls and stairways, and in addition to stocks at present available, the firm make to order any design required. Sheet metal work is also made up to architects' requirements, and stocks are carried to meet immediate orders.

Hot water systems for hotels and private houses as well as bath heaters have always been a special feature with the firm, and falling under this head are the lines made by Junkers & Co., Dessau, Germany. The heating systems are made in various sizes varying from those suitable for the small cottage to others for the largest hotel or block of flats, and a supply of hot water can be made available for every room if desired. The apparatus which works automatically is strongly and scientifically made and free from danger. Worthy of note are the basin heaters made expressly for doctors and dentists and other professional users.

W. W. Campbell & Co. Ltd., of 249 Clarence-street, Sydney, are opening up their new season's supply of fly wire door fittings, including brackets, hinges, handles, springs and catches, as well as fly wire gauge—green painted, galvanised, galvanoid and bronze, the last mentioned finish being suitable for use at the seaside where rust plays such havoc with metalware. The brackets are sold in sets of

six for doors and the hinges are available in half surface and other patterns. There is also an attractive range of fire screens in various designs and finishes.

In cabinet hardware the range is very complete and includes the latest designs in period fittings and finishes. Full stocks of castors are carried, including the well known rubber tyre tea waggon castor in three sizes and in eight different finishes to suit woods of different colour. The castor is of British make and the firm are the sole Australian agents.

Builders' hardware covers a variety of locksets, including Vaughan's York design, together with latches, locks and screws (iron and brass) in Nettlefold's and Stenman's make, hinges in all finishes and zinc nails and heads. The well known "Meritas" cloth covering for furniture in blues, browns, reds and blacks can also be obtained, as well as suitable nails for finishing off.

John Danks & Son Pty. Ltd., of 324 Pitt-street, Sydney, specialise in interior domestic fittings, including art mantels in polished Australian woods, and grates and tiles. Locksets in oval, fancy or square patterns and oxidised finish and brass and steel are carried, together with casement stays in combination and other patterns.

"Sanitas" modern wall covering, a substitute for wall paper, is put up in rolls of twelve yards. It can be applied to any flat surface, plaster walls, painted walls or building boards. Once applied it can be cleaned by wiping down with a damp cloth.

Made of pure wood fibre Upson board is intended as a lining for walls and ceilings in place of steel, plaster or plaster board. In these days panels for interior decorations are being utilised by architects and decorators to a greater degree than ever before, and in favour of Upson board it is said that it can be easily and quickly applied. It is tough, strong and durable and is also fire resisting.

Upson fibre tiles, made by the same manufacturers, are a substitute for ceramic tiles, but the cost is much less. When enamelled they make a sanitary, washable surface and have the appearance of tiles.

The material known as "Anaglypta" and "Lin-crusta-Walton," although in use in Victoria for some years has only of late become well known in New South Wales. Made of papier mache the material is suitable for interior decorations, and is easily fixed to the wall or ceiling. The period decorations are chiefly Louis XV. and Adams, and come in the form of adaptable ornaments and relief friezes. The material is a substitute for plaster ornaments and has the advantage of being easily applied without risk of breaking or cracking.

The "Little Gem" ironing board is finding favour with home builders and can be arranged between the studs of a wooden wall or inserted in a cavity of a brick wall. The board is 14 in. wide and is nailed or screwed in the same way as a pair of door jambs, taking up no room except when in use and only having to be pulled down when required.

Keep, Macpherson Ltd., of 252 George-street, Sydney, are showing the Richards-Wilcox garage

door equipment for openings of from three to six folding doors opening inside or outside the building. Passage doors which can be used for entering the building without disturbing the other doors in the opening are provided. The "Round Runner" is another form, running up to six doors. Instead of folding the runners slide round to the side of the building.

For use in flats door knockers with the number below are on hand in a variety of shapes and designs. One takes the form of a bell, while some of the old period patterns are also to be seen. Antique silver finishes are popular while a new finish, very appropriately called Verdi-bronze, although it seems to require a vigorous polishing, has found a certain amount of favour.

English and American lock sets are in a great variety of patterns, and those of local make are well to the fore. Crystal mortice locks for bath rooms are regaining their popularity, and some new shapes attract attention. Double action springs and hinges for heavy entrance doors are very strongly made and are stocked in different sizes. Used to a great degree in hotels because they are easily kept clean and require no polishing coca mortice locks are shown in a variety of shapes. Among the front door sets is a line of Gothic latches, in three sizes, a form that is returning to favour.

Noyes Bros. (Sydney) Ltd., of 115 Clarence-street, Sydney, are featuring "Celotex," the building material first made from the refuse of sugar cane about five years ago. It is still imported from the United States but as soon as the demand warrants it a factory will be established in Queensland, where ample supplies of the raw material are available. "Celotex" can be used for outside walls and inside linings as well as for decorative purposes; and it is said to modify the rigors of both cold and heat. It also retards fire, and keeps out dampness and dust. Another point in its favour is that it is a sound deadener, and for this purpose is largely used for ceilings and floors as well as for walls in flats and private dwellings. Offered in 3 ft. and 4 ft. widths, and 8 ft., 9 ft., 10 ft. and 12 ft. lengths, its average weight is 60 lb. per 100 sq. ft.

Scott, Henderson & Co., of 9-13 Young-street, Sydney, are showing something new in the way of rustless chromium plated metal. It comes from Von Hagen and Arns, Elberfeld, and is suitable for all kinds of indoor fittings, such as door handles, coat hangers, cabinet sundries, and particularly bathroom fittings. The advantages claimed for this metal are that it is as hard as granite, and that it does not rust or tarnish. It is quite bright, and no polishing is required to keep it clean, rubbing over with a dry cloth to free it of dust being all that is necessary.

Alexander Smith & Keeler, of 12 Castlereagh-street, Sydney, are showing the "Daisy" fanlight opener, which works on a catch and can be opened or closed at any desired angle by the pulling of a string. Another casement stay the "Pioneer" is automatic, and when open or closed does not project into the room, but lies flat on the sill.

The "Acme" door stop is a device of local manufacture lately introduced. The principal working part is an upright bar with a rubber foot and a strong spring. The fastening of a catch forces the bar downwards, the action of the spring being such as to hold the door firmly in whatever position is desired. The release of the catch serves to lift the bar and thus allow the door to be moved.

The shower drop catcher is the invention of a woman. It is a dish shaped contrivance which lies under the rose and catches the drip which would otherwise fall on the bather.

"Airaway" multifold hardware window case-ments are designed to take the place of the old style windows. Working somewhat on the same

principle as folding doors, any one of the windows can be opened separately from the others, or the whole may be folded up and opened.

The "Rixson" safety deadlock is said to be jemmy-proof, since the lock case and strike are so interlocked that the four screws which hold the lock to the door can be removed and still the door cannot be forced open. A further feature is that neither the key nor the knob can be turned in the wrong direction, thus overcoming the annoyance of turning the key or knob only to find that they should have been turned the other way.

Melbourne

Campbell Walker & Co. Pty. Ltd., of 410-12 Lonsdale-street, Melbourne, make a specialty of interior furnishing requirements, and the needs of the builder and architect are given close attention. They are representatives for Campbell tiles, stocks of which may be found at leading hardware stores in the city, and sample ranges are displayed by them at the above address. Hearth and mantel tiles are in a fine selection both as to designs and colourings. It is noticeable that dull surfaced tiles are gaining in favour, especially for interiors. The latest productions from the Campbell works show some handsome shades in this type. There are not only delicate shades of colour, but mixtures of tone which give a pleasing effect. A change has been made in the size of tiles, which are now supplied 4 in. x 4 in. or 3 x 3 in. instead of the former 6 x 2 or 6 x 3. The square shape is an advantage as being less liable to breakage in transit and also when laid.

Wood composition carvings are stocked in a variety of "period" designs. These are suitable not only for "planting" on furniture, but for pillar tops and legs in built-in furniture and mantelpieces. They provide the "finishing touch" to panellings and give a better appearance to the furnishing generally.

For the same uses special quality hinges, catches and handles are also obtainable, in a range of good patterns. Copper track and rollers for built-in cupboards are now in demand, as well as nickel-plated drawer pulls, lifts and shutter knobs.

All kinds of rim and mortise lock sets are available in British, American and Australian makes.

For the coming summer season fly wire and screen door and window fittings are now available. Extensive stocks are kept of all kinds of panelling, which may now be had in practically any class of timber. Panels are coming into use more and more every day in the home as well as in business places. Oak, mahogany, walnut, sycamore, blackwood, maple, hoop pine, birch; an excellent selection awaits the choice of builders. The modern plywood is equal, and some experts say superior to solid timber for the purpose. Certainly some handsome panels are to be had at a reasonable price.

John Danks & Son Pty. Ltd., of 391-403 Bourke-street, Melbourne, are showing a selection of interior hardware and fittings. Many fine examples of mantelpieces, curbs, hearths and fireside brassware are displayed. The tiled hearths, with the new dull glazed finish, make a good effect in combination with the colourings of the wood and the design of the grates. Companion sets in antique and oxidised finish may be had in a number of excellent patterns, while decorative brass of various kinds harmonise with any interior.

Builders' hardware includes locks of all kinds, mortise sets and furniture, of British and American makes, as well as leading Australian lines. A good stock has been opened of "Briton" double action door checks; in Florentine bronze; also Bommer single action spring hinges, floor springs, including the popular No. 315 and Yale door checks. In Yale lock sets a large selection of good numbers

is available. There are in the same brand some very high grade front door sets in bronze. Mention should here be made of Mission pattern furniture, which is in great request. These hand wrought types are most suitable for certain jobs, lending an antique appearance which gives the impression of solidity and strength. Hinges, door furniture and front door latches are all obtainable in this ware.

At their own works the firm are manufacturing brass footrails and standards of good quality and finish which have met with ready inquiry from builders and architects, and many other brass appliances are also made. In this connection name plates may be noted; names suitable for private dwellings, or any name may be had mounted ready for use. These are supplied in the plain brass or oxidised. Many retail stores might find it profitable to carry some in stock.

One of the best window screens we have seen is the "Continental"; an all-metal extension type which is adjustable in a moment. It is only necessary to open the window and place the screen in position. Steel reinforcing rods are entirely enclosed and welded to the frame. It slides freely to the width required. The method of fastening the wire cloth to the frame is ingenious and practical. Every strand of wire is securely held, obviating any tendency to droop or sag away from the frame. This screen is finished in baked enamel, and should be weatherproof. A range of eight different sizes are available.

Hawkes Bros. Pty. Ltd., of Geelong and Melbourne, cater for the building trade. Stocks are constantly available of all Nettlefolds lines. Supplies of wood screws, as well as nickel plated and oxidised screws are regularly arriving.

Locks and lock furniture are represented in the principal English and American makes, as well as Australian. This applies to mortise sets in all the necessary patterns; also to Yale's cylinder door locks and rim types. Every day lines such as door checks, night latches and locks, together with hinges are in complete ranges, both "Briton" and "Yale" brands being carried.

Among the most approved makers of furnishing ironmongery are the Stanley Works, and the firm may be relied upon for good selections in these well known products. Ornamental hinges are in many different patterns and sizes; brassfoundry includes casement stays and fasteners, sash lifts, hat and coat hooks and many useful numbers. An interesting new item in the Stanley range is the Dillon jamb proof sash pulley, designed to avoid any catching of the cord. Other articles include butt and tee hinges, door stops, door holders, shelf brackets, and the useful Stanley screen door set, which comprises all the necessary furnishings for the fitting of a screen door.

Another line worthy of mention is a series of British made name plates and numbers in brass, attractively put up in sets.

For the kitchen there are combination sinks and draining boards in either enamel, aluminium or white metal. Also in this department are porcelain enamelled cast iron baths, sinks and lavatory basins. Modern bath room fittings in nickel or porcelain finish, and tiles, grates and mantels in full supply.

J. S. Kidd & Co. Pty. Ltd., of 410-12 Lonsdale-street, Melbourne, advise a large stock in the departments under review.

Builders' materials and ironmongery generally are extensively handled. The lock section includes rim patterns from Carpenter and Tildesley and Vaughan, and in mortise sets Sargent's and Corbin's. Australian makers are well represented also, some excellent productions being available.

The advent of summer will bring a demand for screen doors and fittings, as well as for fly wire.

All of these are procurable now. The brassfoundry department is well supplied with every description of interior fittings, which include a recently opened selection of Smith's and Newman's double action springs and "Briton" door checks.

Hinges include tees of all patterns, while strap hinges are available in plain, bright or corrugated and trestle joints are in several sizes. The present time is opportune for shade rollers and accessories. These are arriving regularly, and every size may be ordered.

The firm make a feature of brass cased tubing, and also nickelled and oxidised kinds. All the dimensions which are in daily demand may be found here.

George Russell Ltd., of 452-460 Flinders-street, Melbourne, are suppliers of builders' ironmongery of all kinds. Stocks comprise all the needs of the trade in brassfoundry such as hinges, sash fasteners and lifts and similar lines. Sander's and Corbin's mortise lock sets are kept in all numbers, as well as cylinder, patterns and latches.

The firm are featuring a new system of locking, which marks a distinct departure from the ordinary, and possesses striking advantages in many ways. The "Best" universal locking system may include any number of locks, each one incorporating a special core, which may be used in every type of lock. This core is removable by the owner with a special control key, and the combination therein may be changed to match a totally different key, or the core may be changed, at will. This gives the effect of a new lock without the expense of installation. In cases where keys are lost or stolen it is possible by this system to retain security by outlawing a key or keys. Another point is that a person may set all of his locks to operate by one key, or adjust any particular locks to respond to different keys as well, to meet the need of others who have right of access.

A complete range of locks is supplied, embodying the "Best" system. The tubular locks are interesting. They combine the mechanism of a dead lock, a night latch, or a knob latch. Mortise lock cylinders are made which are interchangeable with those of most other makers, obviating the need for replacing the lock case if the "Best" system is desired.

Whether latches, locks, padlocks or furniture, these lines are good both as regards strength and appearance. Prices are quite reasonable, and there seems to be no complication of mechanism in the system. The core is instantly removable, and simply changed.

Mr. J. Stratmann, of Brien-lane, Melbourne, is the maker of a range of brasswork for interior furnishing, window fittings, casement fasteners and locks. A reversible rabbeted mortise lock possessing several useful features is regularly manufactured. It may be changed from one hand to the other in a minute, and although made extremely thin to suit light doors it is very strong, the case being wholly of brass. The design has been planned to save labour as far as possible, very little mortising being necessary in fitting. This is appreciated by builders in jobs where the greatest economy is essential. The price is competitive.

C. J. White & Sons Pty. Ltd., of 362 Post Office-place, Melbourne, are importers and manufacturers of furnishing hardware. At their works in Kensington many lines of art brassware and wrought ironwork are now produced. Included in this section are fire-dogs, fire baskets, lamps, lanterns, log holders, memorial brass and the like. Many fine examples of art metalware are displayed. A range of grates specially attracts, the quality and finish being of the best.

Considerable success has also attended their production of locks of all kinds. In addition to door locks there is a series of brass padlocks of superior type. The Commonwealth Customs department have approved of these for use in bonded warehouses. This applies to six-lever patterns which are "unpickable," and are secure against hacksaws.

The stocks also include a good selection of Flemish log boxes, plaques, jardinières, vases, caskets and bells, as well as door furniture.

The firm have installed a Keil automatic key duplicator, a remarkable machine which cuts all kinds of keys, from Yale door keys to the most intricate safe and strongroom variety with the utmost precision, and at a cost which is much below that of previous days. Extensive stocks of keys and blanks are constantly available.

Wunderlich Ltd., of 243 Collins-street, Melbourne, are well-known as manufacturers of building materials and architectural requirements of various kinds. "Durabestos" sheets are too familiar to the trade to require emphasising. The cement and asbestos combination remains one of the most useful materials for certain classes of work. Easily handled and requiring little expense to put together, a permanent structure may be raised which is weather proof and fire resisting, while the finished job is attractive in appearance. It is of course mostly used in sheets of 3/16 in. thickness for lining wood-framed buildings, although it is widely used for exteriors also. Made in so good a range of sizes and so universally obtainable, it has become a standard product in Australia.

Wunderlich metal ceilings have also gained popularity with builders for their practical qualities and simplicity of fixing. The designs are pleasing, and no cleaner or stronger material can be found for the purpose.

In addition to roofing tiles, which are very largely produced by the company, such appliances as skylights, for every type of roof, galvanized steel window hoods, cowls, inlet vents, and a host of similar lines are included in their catalogues.

The metal window hoods are employed as a protection from the sun. They are simple to assemble, and come ready to place in position, bolts and nuts being provided as part of the equipment. There are certain standard sizes, but any length may be had to order.

Tea Box Tin Lining

From "The Chinese Economic Bulletin."

Tin lining for boxes for packing tea for export from Foochow were formerly supplied by more than 20 makers at Nantai, south suburb of the provincial capital of Fukien, employing hand labour. These manufacturers by native methods, however, were driven out of existence when the Hwa Chang Tin Sheet Mfg. Co. Ltd. was founded at Fanchwanpu, Nantai, in 1919, and began to produce tin boxes of a superior quality, by machinery working faster, and consuming less material by using thinner tin sheets, thus being able to sell the product at a lower price. The company obtained a patent for five years from the Fukien Provincial Industrial Department.

In 1924 the company altered its name into Hwa Chang Machine-made Tin Sheet Co., with Tang Yofeng, a Cantonese, as manager. On the expiration of the patent, other companies were established, and there are now three making tin boxes with machinery, the new factories being: Li Yi Tin Box Co., at Tsangsiachow, Nantai, and Fu Tai Tin Box Co.,

at Kangtow, Nantai. Hwa Chang ranks first, turning out about 200,000 boxes every year and employing 12 regular workers; Li Yi employs six regular workers and makes 100,000 boxes yearly; Fu Tai, with three hands, makes 20,000-30,000 boxes a year, the total production being about 300,000 annually. The price of the boxes depends on the price of tin, plus the cost of labour, which is 40 cash a piece. During the first half of last year tin was 24 dollars a picul, but it dropped to 14 dollars toward the end of the year, which reduced the price of the boxes.

The tin box companies operate throughout the year. During the busy tea season they usually employ from 10 to 50 extra workers. Such casual labour is paid 1 dollar or more per day and the regular workers from 10 dollars to 20 dollars per month. Raw material is imported from Hongkong, and is first made into slabs 20 inches long, 13 broad and more than an inch thick. The slabs are then rolled in the machine and reduced in thickness by pressure. When a number of sheets have been separately reduced to a certain degree of thinness, they are placed one upon another and rolled together about twenty times, until they are about four times their original size and as thin as a piece of thick paper. In making tin boxes each piece of tin is folded round a square wooden block and the seam sealed with melted tin. Before the lidless and bottomless box is taken off the wooden block, it is coated outside with paper to prevent it from breaking. "Cotton paper" was formerly used for this purpose, but to-day imported "news" is used, because it is cheaper, though less strong, than "cotton paper."

The box companies formerly used coal, but now employ electric power, supplied by the Foochow Electric Power Co. Each machine uses 6 units a day, at 280 cash per unit. Each machine is managed by two workmen and produces 200 boxes a day. Tin boxes are of different sizes for different varieties of tea. The smallest is not quite one foot in height. The ordinary size of a "25" chest is 19 *tsun* or about 2 feet cubic. Tin boxes are generally used for holding more valuable teas. Cheaper goods are packed in bags for export.

Tin boxes made at Foochow are also exported to the tea producing districts up the Min River. At Kienning tin boxes are still made by the primitive method by pressing melted tin between two bricks by hand, as formerly at Foochow. Machine-made tin boxes are now exported from Foochow to Kienning and other up-river districts. At Kienning the workers in the tin box industry are partly natives and partly from the Amoy Circuit. But at Fuan district in the north-eastern Fukien province, labour in this industry is imported from Foochow. About 30 tin box makers go to Fuan every year when the tea season starts and return to the provincial capital at the end of the season.

Tin boxes for export to up-river districts are shipped either by steamboat or sailing boat, the freight being 4 dollars per 100 catties, weight, by steamboat and 2 dollars by sailing boat. In view of the high freight rate and of damage being frequently done on the way, the Li Yi Tin Box Co. has obtained permission from the authorities to open a branch factory at Kienning by removing one of its three machines to that place, in spite of the Foochow tin box makers' opposition. The branch at Kienning is to be known as Cheng Fa Tin Box Factory. The tin box workers at Foochow have organised a union, which now has 132 members.

[Note by Editor.—The dollar referred to in these notes is the so-called "yuan," the value of which fluctuates, but may be taken roughly at half an American dollar, or, say, 2/- British currency.]

Electrical Section

Electrical Notes from New Zealand

(Specially Contributed.)

Waitemata Power Board's total revenue for the first quarter of the year was £15,159 as against £11,102 for the first quarter of last year.

Ashburton Power Board, whose loan proposals were rejected recently, has decided to re-submit them to the rate-payers next year.

A survey is being made of power resources in Taranaki, with a view to determine the most economical scheme. This may affect the future activities of the New Plymouth Borough Council.

The proposal to form a Power Board in the Nelson district has made an important advance. A report on the Motueka River scheme is being obtained from the engineers and the new body will be called the Waimea Electric Power Board.

Franklin Power Board has decided to proceed with the reticulation of the Pukekawa District. Authority has been received for the raising of a supplementary loan of £8000, being portion of the £20,000 loan at £5/12/6 per cent.

Dannevirke Power Board finds it necessary to reconsider the water heating rates, because of the appearance of a new type of water heater. This would involve the Board in considerable outlay and probably in loss.

Whangarei Borough Council has referred to a Committee a request from the Russell Town Board that the Borough Electrical Engineer be allowed to report on the possibility of an electrical scheme in the town district.

Community lighting at Hastings has been a decided success. All ordinary shop lighting is switched on every evening for four hours, the current being paid for at a flat rate of two-pence per unit. Ninety per cent. of the shopkeepers are parties to the agreement, with the result that the main streets are now brilliantly lit.

Wairoa Power Board has arranged to supply electricity to the Borough Council at the following rates:—the K.V.A. charge remains at £10 for the first 200 K.V.A. per annum, and £8 per annum for all K.V.A. over that amount. The unit charge is 1d. for the first 600,000 units, 1d. for all in excess, with the substantial minimum of 1,200,000 units per annum.

Hutt Power Board's Technical Committee recommends that the charge for electricity for brooders should be at heating and cooking rates, whereby consumers using 1000 units would obtain supply at 1d. per unit and all over 1000 units at 3d. per unit. This is by way of experiment. Before embarking on the sale of electrical appliances, a report on the results of trading by other boards is to be obtained.

When Wellington city launched out on the scheme of changing over the old 105 volt electric supply to the modern standard 230 volt system it was considered that the work would take five years to complete for the city and suburbs. That was only two years ago, but already about one half the houses have been dealt with and two-thirds of the new work required in the mains and street services are covered.

The Government has accepted the tender of Cory-Wright & Salmon for the supply of the turbine and generator for a new 7500 kilowatt unit at Lake Coleridge Power Station. The plant will be manufactured by the English Electric Co. and delivery to be given in March, 1929. The tender of Andersons Ltd., for the pipe-line has been accepted, and the work is to be completed in June, 1929. A start has been made on the excavation work for the pipe-line and tail-race.

The Electric Supply Authority Engineers' Association held its annual conference in Wellington towards the end of June, about one hundred delegates being present, with Mr. H. F. Toogood in the chair. Representatives of the Public Works, Post and Telegraph and Railway Departments were also present. An innovation this year was the Manufacturers' section, there being some half-dozen representatives present. Among other evidences of progress cited by the chairman was an increase from 8578 to 13,147 in the number of electric cooking ranges in use and that for the year ended March, 1928.

The annual report of the Christchurch Municipal Electricity Department, shows highly satisfactory results for the year's operations. Noteworthy is the rapid growth shown in the domestic consumption. Of a total advance of 5,775,332 units in the current sold last year, the domestic demand accounted for 3,163,520 units, local bodies took an additional 870,000, users of power 800,000 and commercial firms an additional 330,000 units. Domestic consumption has more than quadrupled since 1923. Reduced rates have stimulated demand. The electric service in Christchurch now represents a capital investment of nearly £650,000, and the annual revenue is rapidly approaching the £200,000 mark.

Electricity in Ireland.

In the June number of "The World To-day," Mr. F. O'Hanlon, B.Sc., describes "The Shannon Electricity Scheme," from which a great deal is expected by the Government of the Irish Free State. Planned and undertaken by Siemens-Schuckert, the well-known makers of electrical machinery, this great scheme is to be carried out in three stages, partial development, further development, and final development. The first of these, now well in hand, is to cost £5,200,000 and will, when finished, satisfy the demand for electric current for the next 10 years. So it is expected, although much will turn on the attitude of the peasants. It is the work of the farm rather than of the factory which this scheme seeks to promote, and the question is how far the Irish farmer will be ready to utilise electric current for lighting and heating and power. No less than 53 per cent. of the people of the Free State are occupied on the land, but to-day they are breeders of cattle and sheep rather than tillers of the soil. In 1926 there were 1,551,000 acres of land under crops, other than hay, whereas in 1851 the area under crop was 3,509,000 acres. This is the problem with which the Government is faced and which it has attacked so boldly, the problem of making farm life more attractive and more remunerative. If Irish agriculturists can be induced to welcome the aid of electricity to anything like the extent of their confreres in Great Britain, not to speak of Denmark, the present installment of the scheme will not suffice for anything like 10 years.

The final or full scheme contemplates the utilisation for electric generating purposes of the water-powers of the River Shannon and its three loughs—Allen, Ree and Derg, Lough Derg only is included in present section. That sheet of water is over 100 ft.

above sea-level and the works now under construction includes a power-house at Ardnacrusha with a fall of about 100 ft. The capacity of the plant at this stage will be 90,000 h.p., capable of generating 153,000,000 units of electricity in the dryest year, 288,000,000 units in a normal year, and 373,000,000 units in a wet year. From the power-house the current will be distributed all over the country. Some of the transmission lines have been completed, while others are well in hand. Early in 1929 it is expected that current from the Shannon scheme will be available at various points. Basing their estimates on an output of 153,000,000 units per year, and fixing their charges as low as possible, the Shannon Electricity Supply Board expect a yearly revenue of £486,000, which is sufficient to pay all charges, including interest at 5½ per cent. and provide a sinking fund to extinguish the invested capital in 40 years.

Tasmanian Town Changes Over.

Since 1900 the town of Zeehan in Tasmania has been supplied with oil-generated electricity, the installation being owned and operated by the municipal council. The town has now been connected with the mains of the Hydro-Electric Department and the switching over ceremony early in July was the occasion of much rejoicing. Money was borrowed for the financing of the scheme.

New Power House at Brisbane.

The Brisbane City Council's new power-house was formally opened on June 27, and is now supplying half the tramway current. The alternators run at a speed of 3000 revolutions per minute, and the electricity as generated is 11,000 volts alternating current. The switch is so constructed that no live conductors are exposed, so that the risk of shock has been entirely eliminated. The total cost of the building and plant will amount to about £322,000.

Victorian Hardware Merger.

In our last issue brief mention was made of the coming together of two Melbourne hardware and metal firms, George Russell Pty. Ltd. and S. Cohen Sons & Co. Pty. Ltd. Since then it has been announced that the amalgamated company have purchased the stocks of iron and steel of B. K. Morton Pty. Ltd., who have relinquished the warehouse side of their business and are confining themselves to the representation of certain manufacturing firms. We now add a few facts covering the history of the two businesses which have thus joined forces.

George Russell Pty. Ltd., are iron, steel and general hardware importers and merchants. Their offices, warehouse and ironyards are in seven-storey premises erected for them in 1923 at 452-60 Flinders-street, Melbourne, and they have a commodious bulk store in Queen's Bridge-street, South Melbourne. In addition to their general business they hold exclusive agencies for carbide of calcium, steel wire ropes, leather belting, concrete reinforcing materials, paints and varnishes and other lines. The business was established by the late Mr. George Russell in 1885. J. & G. Russell was the name of the firm at that date, the founder's brother James being the other partner, while the address was 529 Elizabeth-street. Subsequently the two brothers were joined by Mr. John Reid and the firm name became Russell Bros. & Reid. Then Mr. J. H. Reid having joined the firm and Mr. James Russell having retired, the name was again changed to Reid Bros. & Russell. Incorporated in 1891 as Reid Bros. & Russell Ltd., a further alteration was made six years late when the company was brought under the proprietary provisions of the Companies Act

as Reid Bros. & Russell Pty. Ltd. Eventually Mr. Russell acquired the interests of the brothers Reid and was joined in the proprietary by his son of the same name. In 1912 the capital of the company was increased and the name changed to George Russell Pty. Ltd., as at present. The father and founder died early in 1913 and young Mr. George Russell, who even then had the active direction, has been at the head of the business ever since. Their London office is at 23 Lime-street, E.C.3.

S. Cohen Sons & Co. Pty. Ltd., were registered in 1913 to take over and continue the wholesale hardware business of S. Cohen Sons & Co. That business was established by the late Mr. S. Cohen at Ballarat in the early fifties of last century. In 1886 it was extended to Melbourne, which became the head-quarters, Ballarat falling into the position of a branch, as it still is. Three brothers were connected with the business in years gone by as members of the firm and directors of the company, but since the death of the father and founder two of the sons have also been called away, so that the family is now represented by one member only, Mr. Morris E. Cohen, who becomes a director of the amalgamated company. For some years they have had various manufacturing interests, although not under their own name. The three-storey building occupied at 380 Lonsdale-street, Melbourne, was erected for them and bears the date 1888. Their branch at 315 Sturt-street, Ballarat, is controlled by Mr. J. J. Perini.

As previously announced, the capital and management of George Russell Pty. Ltd., will be enlarged to absorb the other business and the title George Russell Ltd., will henceforward cover the joint operations. Mr. George Russell is the managing director of the augmented company and Mr. Morris E. Cohen joins the board as one of the directors. Before long, it is understood, Cohen's warehouse in Queen-street will be vacated and city business concentrated at the registered headquarters, 452-60 Flinders-street, Melbourne.

A Shine in London (American Paper)

Crudely lettered on the side of the shine-box of a little London bootblack were these words:

Such a shine in a minute!

We stepped up and patronised. We wanted to become acquainted with one who could say so much about his business and himself in half a dozen words. We found the lad interesting and we found that his shine-box told the truth.

That shine seemed to last longer than any other that ever graced our shoes. And now, long after the shine has worn off, the urchin's slogan remains fresh and sparkling in our memory.

How much can be done with words if they are handled with imagination and sincerity: "Such a shine in a minute."

"Business Was Bad"

One of our subscribers (41/231) sends the following story as "applicable to the present time."

"A gentleman of an investigating turn of mind wanted to know what a fish would do under certain conditions. He divided a fish globe at its centre with a sheet of glass, filled both sides with water, put minnows on one side, a fish on the other. The fish at once started after the minnows. Nothing to it but a bruised nose. After several attempts the fish gave up trying. The sheet of glass was removed. Nothing doing. The fish had bumped his nose before, he would not take another chance. The minnows could play all around, the fish was through. He had concluded business was bad, so what was the use? The poor fish."

This fish story requires no comment.

HARDWARE AND MACHINERY

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For 30/- per Annum we will supply (in addition to above) The Ironmonger (London), weekly, and a copy of The Ironmonger Diary. All Post Free. Single copies 1/- each. Subscriptions payable in advance.

Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

Non-Ferrous Metals

George White & Co., of Post Office Place, Melbourne, have just landed a shipment of nickel silver sheets of high grade. Included in this parcel are sheets of 6 x 2 x 16 gauge which are in demand at the moment. A large range of sizes in sheet zinc is another useful arrival. The firm carry very many gauges and sizes in these metals which are not usually obtainable elsewhere.

Correct Address

In a recent issue of this journal the location of Bradley & Co. Ltd., was given as Birmingham. This was a mistake. Their Albion Works are at Bilston, not at Birmingham. Well-known as manufacturers of "Beldray" metal ware, the company are represented in Australia by Molden & Budden Pty. Ltd., of Post Office Place, Melbourne, and 131-35 Clarence-street, Sydney; and in New Zealand by Mr. H. N. Hilliard, of Southern Cross Buildings, Chancery-street, Auckland.

Large Circular Saws of Australian Make

From their works at the corner of Salisbury-road and Gibbens-street, Camperdown, Sydney, Henry Disston & Sons Inc. (Australasia) Ltd., recently sent out three of the largest circular saws yet produced in Australia. They were manufactured to the order of the State Sawmills in Western Australia and measure 78 in. in diameter. Each was made from a 5 B.W.G. plate weighing 396 lb., the finished article being approximately 36 lb. less. The rim of a saw of this size travelling at the normal rate of 350 r.p.m. means over 650 miles for a working day of eight hours.

It is only a few years since the firm embarked upon the manufacture of circular saws in Australia. Although nothing so big had been attempted previously, but slight adjustments of the plant were necessary to cope with this unusual order.

"Qualcast" Lawn Mowers

The Derwent Foundry Co. (1920) Ltd., of Derby, England, well known to the trade as manufacturers of "Qualcast" lawn mowers, will in future be known as Qualcast Ltd. A new company of that name has been registered with a capital of £125,000. The chairman and managing director is Mr. V. Jobson, who has visited Australia and New Zealand several times, the last occasion being in 1926.

Although these manufacturers entered the mower industry comparatively late, they have succeeded in placing their British made machine amongst the most prominent on outside markets. The task was not easy, existing competition being formidable,

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and securely entrenched. The company tackled the problem with great determination, Mr. Jobson making a study of the needs of various markets, travelling from end to end of Australia and New Zealand, as well as of other places. The organisation at the factory was such that in many instances deliveries of large shipments of mowers have been made in Melbourne within six weeks from the date of cabled orders. These considerations, combined with capable representation at this end, have enabled the company to achieve an enviable record.

The formation of the new company has permitted the carrying out of a large rebuilding scheme. This includes a further extension of plant, which was fore-shadowed a few years ago by the securing of land and railway sidings for the purpose. "Qualcast" mowers have a very large sale in Great Britain also, the factory working throughout the year on modern mass-production methods.

The Australian agents are Gibbs Bros., of Melbourne and Sydney.

Foreign Exchanges

Foreign rates of exchange in London for cable transfer on the centres and dates indicated, compare as follows:—

Par.	—	—	Aug 23	Aug 27	Aug 30	Sept. 3
4.886	New York	Dols to £	4.85½	4.85½	4.85½	4.85½
4.866	Montreal	Dols to £	4.85½	4.85	4.84½	4.85½
25.225	Paris	Fr to £	124.25	124.27	124.28	124.28
35.000	Brussels	Bels to £	34.90	34.90	34.91	34.90
25.225	Rome	Lire to £	92.68	92.68	92.63	92.67
12.107	Amsterdam	Florin to £	12.10½	12.10½	12.10½	12.10½
12.107	Batavia	Gul to £	12.11½	12.11½	12.11½	12.12½
18.159	Stockholm	Kron to £	18.13	18.13	18.13	18.13
18.159	Oslo	Kron to £	18.19	18.19	18.19	18.19
18.159	Copenhagen	Kron to £	18.19	18.19	18.19	18.19
20.43	Berlin	Gmks to £	20.36	20.35	20.37	20.36
24	Calcutta	Pen to rup	17½	17¾	18	18
24.58	Yokohama	Pen to yen	22½	22½	22½	22½
	Hongkong	Pen to dol	24½	24½	24½	24½

*Par depends on rise and fall in price of Silver.

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Editorial

The Coal Trade Crisis

By their action in ordering British coal for the use of the State railways the South Australian Government have precipitated a crisis in the coal industry of the Commonwealth. Having practically no coal measures of her own South Australia has to look elsewhere for her supplies of this all-important product, and finding that she could land coal from England at some 7/- per ton less than she could buy it in Australia she placed an order for 15,000 tons with one of the Northumberland collieries or its representative. This was done deliberately and after due intimation to the Australian suppliers. It called attention to the unsatisfactory state of the Australian coal-mining industry and will lead, it is to be hoped, to its reorganisation.

Although coal is found in every State of the Commonwealth, New South Wales is the only important producer and in New South Wales the Newcastle-Maitland district is responsible for most of the output. Here is found one of the greatest of the world's high-grade coal-fields. The Commonwealth output of coal aggregates about thirteen and a half million tons yearly and to this total New South Wales contributes over eleven million tons, most of it from the Newcastle-Maitland mines, which consequently dominate the coal position in Australia. During recent years the price of Newcastle coal has gone up to a figure which is now felt to be outrageously and impossibly high. It has been artificially maintained at a level which it never should have reached and from which it must now be brought down by one means or another. For some years up to 1916 the price of large coal at Newcastle had stood at 11/- per ton. Since then various increases have been made—4/- at one leap in 1920—until to-day the ruling rate is 25/-. Repeated troubles between owners and miners led to Government interference. A Coal Tribunal was appointed, and this body has obviously been over-indulgent. Severe pressure from those immediately concerned and the understandable desire to preserve the flow of supplies have led the members to sanction increases of rates and prices, forgetful of contingent effects and ultimate issues. Now Australia is fairly face to face with these. While prices have gone up output has fallen off, and the burden cast upon Australian industry is altogether too heavy. The world is not so dependent upon coal to-day as once it was. Oil-fuel and hydro-electric power

are being utilised increasingly, and even where coal is still called for others than the Railway Commissioners of South Australia are looking to other sources of supply. Where at one time scores of ocean-going steamers were loaded or at least "bunkered" with coal at Newcastle very few now come to the derricks. A profitable trade has been lost to the port by the certainty of high prices and the uncertainty of obtaining supplies when they were wanted.

Apart from this loss of outside trade the effect of these high prices upon Australian transport and production is incalculable. Because coal is so dear shipping and railway freights and fares have been raised perforce, and manufacturing costs are higher than they ought to be. Expensive plants have been laid down near the coal beds of the Newcastle district, but the proprietors are handicapped in their efforts by the outrageous price of fuel for one thing. Newcastle can never become the great manufacturing centre which many had hoped to see it so long as present conditions obtain.

Not all of this serious increase in the price of coal has gone into the pockets of the miners. The colliery owners have admittedly had their share of the spoil and must take their share of the blame for the position in which the Commonwealth finds itself. Capital is now suffering as well as labour. With business falling off there are too many collieries as well as too many colliers. Some of the interstate shipping companies have entered the field during the past twelve years and one new mine has been opened after another. Many of these, heavily capitalised, are now closed down and hundreds of miners are being maintained or assisted by the Government of New South Wales. Even so many of those still at work are said to be earning from 50/- to 60/- for a short day's work. The collieries are only permitted to work one shift a day on eleven days of any fortnight. Work begins and ends at the pit or tunnel mouth, so that with half an hour "crib" time the actual work at the face where the coal is hewn may be more like six. Many of the miners work in pairs on piece rates and good men earn "good money." The record at Maitland is given by an investigator at £95 earned by a certain pair in eleven days or £18/5/- per man per week. They might have earned more but for the operation of union rules. While hours and rates are fixed by others the "lodge" steps in to limit the number of skips that any pair shall fill in a working day—the "darg" as it is called. When that limit is reached they must stop; they dare not disobey the rules of their own order. The result is that men may be seen leaving the mine as much as two hours before knock-off time. They have earned the maximum in little more than half a day's actual work, while hundreds of their fellows are earning nothing at all. This is the testimony of men who have made careful inquiry on the spot.

In face of the facts disclosed who shall blame any large consumer of coal for breaking with the

Newcastle monopoly if he can find a better market? The position has become intolerable, and this bold action will help the people of Australia to realise it. Yet any hint of reduced hewing rates or rearrangement of conditions finds the miners set in opposition, and some others have no better suggestion to offer than a Customs duty on imported coal or a bonus on Australian production! The Federal and State authorities are looking into the whole question and the feeling is that by some means or other prices must come down, not by a shilling or two, but by a considerable amount.

Australasian Finance

(Contributed by 3/233)

In New Zealand last month the Department of Economics of Canterbury College supplied a Bulletin to the Christchurch Chamber of Commerce on Public Finance as affected by the Great War. This briefly reviewed the war debts of some of the belligerent countries, the increased taxation mainly consequent therefrom, the methods of inflation finance, and some of the consequences of such methods. The comparisons were taken from tables prepared for the Economic Conference held at Geneva in 1927, and we are interested in those relating to Australia and New Zealand as compared with Great Britain.

Methods of Inflation

Dealing first with the methods adopted to provide the vast purchasing power called for by the sudden and catastrophic outbreak of war on an unprecedented scale, the Bulletin explains how taxation, although resorted to, was inadequate (to say nothing of its unpopularity) to provide the funds required; and that borrowing in all its forms was resorted to. Now it may be maintained that if the Government had borrowed from the existing stores of credit available in the books of the banks they would have correspondingly reduced the purchasing power of the public as they increased their own purchasing power—with the most invaluable result of not greatly disturbing prices. But the Government, perhaps not clearly understanding the consequences of their action on prices, took the broad and easy path of creating fresh purchasing power by large issues of paper money and by encouraging large creations of fresh bank credits on the basis of such paper money made legal tender for the purpose. This illegitimate creation of very large sums of fresh notes and bank credit so altered the proportion existing between goods and services for sale and money wherewith to purchase them that the latter decreased in value, which is the true explanation of rising prices.

The Australian Method

As regards Australia the act, the day, the month, the year on which the vast inflation of credit was

rendered possible can be accurately defined. It was on a certain day a few weeks after the outbreak of war, that at a meeting held in a room in Collins-street, the executive officers of the Australian banks agreed that the daily settlement of the balances of exchanges of cheques and bills amongst themselves should be effected in notes and not as formerly in gold. This was a momentous decision which at once opened the door to unlimited creation of fresh credit without relation to production of goods for human consumption; and it placed the Commonwealth Bank in a commanding position. Up to this time that bank had been in a small way, its holding of gold being a very small amount. Now, with settlement of exchanges in notes and not in gold, it could create millions of deposits in favour of the Government in exchange for notes printed at the Government Printer's office; and the Government could draw cheques for payment of goods and services and distribute the fictitious credit throughout all the Commonwealth; and it could buy exchange on London without having to provide a sovereign in payment therefor. Thus was broken the connection between legitimate credit created on the basis of production or anticipated production of goods, and the goods and services available for purchase in the market.

The Loan of Gold

No sooner was the machinery thus created for the Commonwealth Bank to pay liabilities in paper money than the next step was taken. Under the Australian Note Act the Commonwealth required to hold in gold one sovereign for every four pounds of notes issued. Mr. Andrew Fisher, the prime minister of that time requested the banks to "lend" him ten million pounds in gold in exchange for an equivalent amount of notes. This gave him the necessary gold holding for an issue of forty million pounds of notes, the balance of which were printed and paid in by the Government to credit of the public account at the Commonwealth Bank. Against the "deposits" thus created the Government drew its cheques in payment of loans to the States, and goods and services purchased, and settlement of the adverse balances thus created against the Commonwealth Bank was made in notes, thus carrying the paper money to all the banks in the Commonwealth. These notes largely increased the legal tender holdings of all the banks, and on these increased holdings they were enabled to make large advances of fresh credit to their customers—about £4 of credit for every £1 of legal tender money held—which advances created fresh deposits—and so the great inflation proceeded.

In your next issue the situation created by such inflation as reflected in the figures of public loans, increased taxation, swollen deposits, and alteration in the price levels will be dealt with,

Inquiry Column

During the month we have supplied answers to the inquiries indicated below. Firms with whom we have not already communicated who hold any agency connection with the firms, or handle any of the lines mentioned in this section, are invited to furnish us with particulars so that our lists may be complete.

INFORMATION WANTED

"Eiffel Flash" Wrenches.—Name and address of agent wanted.

Klinger Water Gauges.—Name and address of agent wanted.

"Rotex" Rotary Pumps.—Name and address of agent wanted.

Hobbs, Hart & Co. Ltd., London.—Name and address of agent wanted.

"Sparamotor" Outfits for Orchard Use.—Name and address of agent wanted.

Charles Nurse & Co. Ltd., London (planes).—Name and address of agent wanted.

Westall Richardson & Co., Sheffield (bread saws).—Name and address of agents wanted.

American Chemical Paint Co., Philadelphia, Pa., U.S.A.—Name and address of agent wanted.

Smith & Wellstood, Bonnybridge, Scotland (stoves).—Name and address of agents wanted.

I. & D. Smallwood, Birmingham (spirit levels, rules, etc.).—Name and address of agent wanted.

Joshua Heap & Co. Ltd., Ashton-under-Lyne (screwing machines).—Name and address of agent wanted.

INFORMATION SUPPLIED

"Arvika" Axes.—Name and address of agents supplied.

"Stuart" Cut Glass.—Name and address of agent supplied.

Lawn Mowers.—Names and addresses of agents supplied.

Metters Bros., stove manufacturers.—Address supplied.

I.X.L. Stoves.—Name and address of manufacturers supplied.

Vaughan's Chain Block.—Name and addresses of agents supplied.

"Eifel Flash" Wrenches.—Name and address of agents supplied.

"Vega" Cream Separators.—Name and address of agents supplied.

"Comfort" Self Heating Iron.—Name and address of agents supplied.

Garage Door Fittings.—Name and address of manufacturers supplied.

"Floxxol" Paint.—Name and address of distributors in Sydney supplied.

"Kooka" Brand Enamelled Ware.—Name and address of agents supplied.

"Champion" Grass Catchers.—Name and address of manufacturer supplied.

Rotary Clothes Lines.—Names and addresses of manufacturers supplied.

Grindstones.—Name and addresses of manufacturers in Sydney supplied.

H. & T. Vaughan Ltd., Willenhall.—Name and address of agents supplied.

Verandah Blinds.—Names and addresses of manufacturers in Sydney supplied.

Australian Metal Co.—Name and address of firm carrying on business supplied.

"Heolin" Motor Enamels.—Name and address of agents in Melbourne supplied.

Aluminium Utensils.—Name and address of manufacturers in Melbourne supplied.

Nicholson File Co., Providence, R.I., U.S.A.—Name and address of agent supplied.

Edward Pennington Ltd., London.—Name and address of New Zealand agent supplied.

Millers Falls Co., Millers Falls, Mass., U.S.A.—Name and address of agents supplied.

Bright Steel Bolts.—Names and addresses of manufacturers in Melbourne supplied.

Brown, Bayleys Steel Works Ltd., Sheffield.—Name and address of agents supplied.

Guest, Keen & Nettlefolds Ltd., Birmingham.—Name and address of agent supplied.

J. J. Saville & Co. Ltd., Sheffield (high speed steel).—Name and address of agents supplied.

W. & T. Avery Ltd., Birmingham (scales).—Name and address of agents in Melbourne supplied.

Ransomes, Sims & Jefferies Ltd., Ipswich, England (lawn mowers).—Name and address of agents supplied.

Geo. Salter & Co. Ltd., West Bromwich, England (spring balances).—Name and address of agents supplied.

United Horse Shoe & Nail Co., Gothenburg, Sweden ("Globe" horse nails).—Name and address of Australian agent supplied.

Kerb Petrol Pumps (known to many as "Bow-sers").—Name and addresses of manufacturers and agents in Melbourne supplied.

Industrial Gases

One of our subscribers (36/232) asks if we can give the name of an American journal dealing with industrial gases.

A.—The most likely American papers to which at the moment we can refer our inquirer are "Industrial and Engineering Chemistry," costing 42/-, and "The Journal of Physical Chemistry," costing 50/- per annum.

Paint for Water Tanks

One of our New South Wales subscribers (55/232) wishes to know what would be a suitable paint for the inside of a galvanised iron tank. The tank receives the water from the roof of the store and the water is used for drinking purposes.

(A.) Any good elastic carbon paint will be safe for this purpose. Black "Ferro-Perito" is considered excellent by those who know, and "Plymel" is another brand that finds recommendation. The cost is about 10/- per gallon and a gallon should be ample for a tank of 2000-3000 gallons capacity.

Not Understood!

The employer had just engaged a new clerk. "Now that I have decided to give you the job," he said, "I must tell you that early hours are the rule in this firm."

"That's splendid, sir," said the new clerk; "you can't close too early for me."

Sundry Credits

(By J. Knibb)

How many hardware assistants, I wonder, know the exact meaning of this term? It is at once a verb and a noun, or is used in both these ways. As a verb it means forging by means of a mechanical hammer of much greater weight than could be wielded by hand, or forging in a machine employing the mechanical force of a dropped weight. It indicates the mechanical as opposed to the manual. In Sheffield they call it "goffing." For the noun you must look to the result of the mechanical forging or "goffing" process. That result is a drop-forging.

* * * *

A young Australian architect who has spent four years in America feels we might with benefit copy that country in the matter of keeping our footways free from overhead structures. Our verandahs and cantilever awnings are depressing and ugly, so he says. They hide or disguise some of our finest facades and prevent any real appreciation of their beauty or value. In the United States small shops display gaily coloured canvas awnings to protect their windows, while the larger retail stores are often designed with arcade frontages. They thus secure a promenade set back from the building line.

* * * *

A New Zealand paper recently had a picture of one of the first motor cars introduced into that country. It dated from 1902 and was owned by Mr. W. H. P. Barber, who has been using such means of locomotion ever since. But his car of to-day is quite other than this early model with chain drive and lever steerage and wire-spoked wheels. In Australia the late Mr. John Pender was, I believe, the first to be seen in such a vehicle. He bought it in Chicago during one of his periodical trips to America and used it for some years. Subsequently he presented it to the Technological Museum in Melbourne, where it may still be seen, a quaint-looking article compared with the swell types of the present.

* * * *

When the cablegrams announced the tragic spill of the financier Lowenstein from his aeroplane into the open sea a few of us were discussing the matter at the luncheon table. One expressed the opinion that such a fall, even into liquid, would smash a human body. This view was confirmed when news of the recovery of the dead aeronaut came to hand. The autopsy revealed a partial fracture of the skull and "every bone of the body was broken." Seeing that water is practically incompressible and that what scientists call the acceleration of gravity is about 32.2 feet per second this result is understandable. A dive into the water from a height of fifty feet is one thing; a fall from a height of five hundred feet is quite another thing, quite another!

Saunders Norvell tells of some peculiarities and possibilities of business life "down town" in New York City. "Another man, the head of a great corporation, has a bungalow on the roof of his office building. This man is a crank on fresh air. He undresses and goes to bed in a room in his bungalow. When he is comfortably fixed on his pillow, he presses an electric button. A pair of doors in the side of his room slide open and his bed slides out under a canopy on the roof. The doors close. In the morning he presses another button, the doors open and the bed automatically travels into the room with him on it. The doors close and he proceeds with his toilet. Can you beat it?" Certainly! In imaginative literature he would press a third button and a genie would appear to take off his beard and put on his clothes. Next please!

* * * *

It must be twenty years at least since an eminent British physician startled people by saying that at forty years of age a man was too old for active service in this jostling competitive world of ours, too old, at any rate, for playing a full or directive part in it. About the same time John Foster Fraser crossed the Atlantic to study "America at work," and was impressed with the youth of the workers. When at a certain big factory he asked for the old men, he was told they were in the cemetery! Both statements are obvious exaggerations. The journalist of to-day points to the Lord Balfours and the Thomas Edisons who have passed the fourscore and are still hard at it, with little apparent diminution of mental power. And doctors and surgeons are discovering means of lengthening human life as well as of relieving its pains and promoting its happiness. The study of hygiene, not to speak of the transference of monkey glands, has stretched the span of life possibilities beyond the Davidic limit and promises to stretch it still further. To-morrow as to-day much will depend on the man. Oliver Wendell Holmes was "eighty years young."

* * * *

Men know to-day as never before that certain work is best done by youth, has to be left to youth, in fact, and men feel to-day as never before that ambitious capable youth ought to be given its opportunity. In the British House of Commons, not long ago, Mr. E. C. Grenfell, M.P., who is a director of the Bank of England, made a speech which attracted a good deal of attention. In the course of it he referred to ten men who are controlling as many big industrial concerns. "The concerns are a household word in England, and out of those ten concerns seven are not prosperous, to say the least, providing, I believe, little or no income tax for the Chancellor of the Exchequer. When I looked through the names of the distinguished men—and they were distinguished men—who were in control of those concerns, I found that their ages varied downward from 90. In the ten concerns the united ages of the gentlemen who were conducting them came to 760 years. In every case those men had deserved well of their country, but an average of 76 for the head of a great concern is, I think we will all agree, a bit on the high side." On the high side? I should say so, and I could point to concerns on this side of the world which are suffering in the same way. In the conduct of affairs, business and other, we need an admixture—the optimism and driving power of youth linked on to the steadying influences of experienced maturity. Wise maturity will recognise this and make room for "younger blood."

Novelties and New Samples

Automatic Electric Stove

S. Hoffnung & Co. Ltd., of 163 Pitt-street, Sydney, are distributors in N.S.W. of the Armstrong electric automatic range, a convenient stove with the outlet connected to a timing switch. By the use of this switch the current can be timed to automatically switch on at any hour desired and it can also be cut off automatically at a pre-arranged time. The housewife can put a meal in the stove, set the timing apparatus and return to find the meal properly cooked. The necessary temperature can be maintained throughout. Another advantage is that for tea or coffee making purposes, the apparatus can be set to start the current at a certain time and to cut off as soon as the water has come to the boil.

Shovel for Post Holes

Tulloch's Phoenix Ironworks Ltd., Rhodes, Sydney, are placing on the market an improved type of post hole shovel. This should appeal to fencers and other pole erectors from the fact that it is so shaped with the sides turned up as to enable the lifting of a full shovel of soil from deep holes without upsetting. We are informed that this style of shovel has been made to the suggestion of a number of practical fencers and post hole diggers and was only obtained after various experiments. Another feature is that the shovels are made on the socket principle so that new handles, when required, may be fitted with a minimum of time and expense. This is considered an important consideration for men working at a distance from stores.

Mr. D. R. Macdermid, of 2b Castlereagh-street, Sydney, is the Australian representative for the manufacturers.

New Philips Lamp

Ironmongers and other lamp retailers will be interested in a new kind of lamp now being placed on the market by one of the oldest firms of lamp makers, Philips & Co., of Holland and elsewhere.

Electric lamps have been a good staple line for the trade for years now, and any new departure in this direction which opens up an avenue for more business should be welcome. The new lamp the "Duo-Savelite" is designed for the home, and consists of two filaments, the one giving about 25 cp, while the other is a dimmer light of about 5 cp. The change from the bright light to the soft light is by means of an ingenious switch mounted in the cap of the lamp, and operated by a cord suspended at the side of the lamp, the whole of the switching arrangement being part and parcel of the lamp itself.

This lamp can be sold as a stock line as no alteration to the ordinary light socket is needed. Many positions will occur to the retailer where such a lamp could be used, including, sick rooms, corridors, cupboards, halls, and the dozen and one places which do not justify the expense of burning a brilliant lamp continuously, yet where a bright light is occasionally required.

Philips Lamps (Aust.) Ltd., of 69-73 Clarence-street, Sydney, and 402 Post Office-place, Melbourne, are the agents.

Sheffield Hand Saws

Sanderson Brothers and Newbould Ltd., Sheffield, England, represented in Australia by Mr. J.

Baumber, Kembla Building, Margaret-street, Sydney, have added to their list of such tools two new saws—the "Pax de Luxe" skewback handsaw No. 33 and "British Homestead" skewback handsaw No. 22.

Made from crucible steel melted at the firm's own works, the former is correctly tempered, perfectly balanced and scientifically ground thin to back, beautifully polished and etched and having a rosewood handle fastened with nickel plated screws. These saws are packed singly in strong attractive



boxes, the royal blue linings being effective in setting off the elegant appearance of the saw. The makers claim that nothing better is produced in England and it certainly is a tool which any tradesman might be proud to possess.

The "British Homestead," as the name implies, is a medium priced handsaw expressly made to meet the various needs of a general household in the matter of sawing. It comes between the good article called for by tradesmen and the low-priced saws now obtainable.

New Pattern "Qualcast" Mower

From Gibbs Bros., of 301 Flinders-lane, Melbourne, agents for Qualcast Ltd., of Derby, England, come details of the new model "K" lawn mower, which will be on the market this season.

Model "K" has been evolved as a result of the visit of the company's managing director, Mr. V. Jobson, to Australia and New Zealand in 1926. It is specially designed to deal with the tough grasses met with in these countries. The principal features are explained in our advertising columns, and a close inspection of the machine bears out the claims made by the manufacturers.

The distribution of weight is such as to ensure the cutters holding close to the ground, however rough, a necessary provision on bumpy or uneven plots. A good point also is the neat fitting of the spider against the bearing housing, preventing grass from working round the spindle in operation. Thus the blades continue to spin freely after cutting long grass. Nothing is more annoying than the constant need for removing the grass which persists in clogging the cutters.

Perhaps the most important change in design is that for adjustment of the bottom blade. Instead of the worrying job of tinkering with a screwdriver, the adjustment is made by hand wheels, with a minimum of trouble. The blades are thus easily kept in accurate contact, and the full advantage of the self-sharpening device is obtained. The cutter spindle is fitted with ball bearings which are self-adjusting. The blades are self-aligning, and the use of a spring and floating cone makes the mower shock-absorbing.

Paints and Painting Materials

Tarsene Pty. Ltd., of 81 King William-street, Fitzroy, Melbourne, are manufacturing a new pigment which has interested the trade, as well as

working painters, for the quality of the paint itself, and also for its economy. This is known as "Tanox," and the claims put forward by the makers are great covering capacity and immunity from the effects of sea air as well as from air containing corrosive gases. Being a titanium-zinc product, it is non-poisonous, and a strong recommendation is the fact that a hundred weight of "Tanox" will make a full nine gallons of paint. For those interested it may be mentioned that buildings which have recently been painted with this preparation include the Melbourne Town Hall and the New Comedy Theatre.

For three years past the company have been engaged in plans for the production of nitro-cellulose lacquers both for spraying and brushing purposes. Exhaustive tests have been made of these new preparations, "Cristolac" and "Porcelac," with highly successful results, and they will be marketed before long.

During the past twelve months the company have considerably altered the scope of their business. In addition to the new lines fore-mentioned they now carry complete stocks of all requisites for the paint trade, such as dry colours of all kinds, brushware and oils.

They are demonstrating a new paint and varnish remover, "Quickstryp," which is very highly recommended. The method of using is somewhat unusual. It comes in a semi-paste form, and after application it may be left for some time without drying. Varnish, lacquers, or paints are stated to "come away" cleanly, without the least injury to the wood or metal beneath.

Pottery and Glassware

English Potteryware

W. G. South & Cowan Ltd., of 352 Kent-street, Sydney, are showing a wide range of pottery on behalf of several manufacturers.

The Royal Crown Derby Porcelain Co. Ltd., of Derby, England, have sent a grand array of tea-ware, embodying an assortment wide in its variety. Noted artists are responsible for the hand painted patterns from which the decorations are taken, No. 1128 being particularly noticeable, a typical example of high class Crown Derby china. The ground work is of cobalt blue, relieved with red and blue floral work and heavily traced with gold. An attractive and noteworthy tea set is very richly treated with flowers in red and blue encircled with gold, the cups being an attractive feature. Long and narrow in shape they appeal because of their uncommon appearance. China dinner bells, of course, are not a new feature, but those now being shown are noteworthy because of their tinkling sound. The Queen Anne pattern tea sets are daintily done in light blue. Manicure sets are particularly good, and these as well as small ornaments have always been a feature with the firm, some real gems now being shown.

George Jones & Sons Ltd., of Stoke-on-Trent, have sent a big range of tea and dinner sets, embodying some of the latest ideas and styles. A typical example is that with the autumn colouring on ivory ground, the effect being very fine, and the same remark applies to those with a blue and red border on an ivory ground. A heavy gold pattern on a powder blue border and an ivory centre which tones down the colours stands out prominently. Among the tea sets with inside decorations are some very fine samples, one particularly noticeable being a rich yellow, mingled with heavy gold. The colours are nicely blended in another set treated with a very fine cobalt blue and

heavy gold decorations. By way of contrast are some simple but tasty examples made to suit the leaner pocket.

A. J. Wilkinson Ltd., of Burslem, are responsible for a big assortment of dinner ware, tea ware, tea sets, dessert sets and fancy pottery. The makers specialise in bright, medium priced patterns, and the choice of selection is very wide, fruit decorations on coloured ground being particularly choice. In fancy pottery are some attractive designs, that with butterflies and gold on a powder blue ground stand out prominently. Some very well done statuettes, modelled by Miss Clarice Clift, should make an appeal.

The Newport Pottery Co. Ltd., also of Burslem, have sent a wide assortment of fancy pottery, supper sets, toilet ware, salad sets and hotel ware. Uncommon are the fancy sets decorated with representations of old London Cries, the picture on the front and the words actually used on the back of each piece. "Canada" cups and saucers are of thin earthenware for a turnover trade. The "Newport" fancy shape cups, white with gold edges, are also a good turnover line.

The Salisbury Crown China Co., are makers of cheap and medium priced tea ware, and their "Dorothy" tea cups and saucers are noteworthy. The gold edges on the white bodies adding dignity to a low priced line. A big variety of cheap Crown Derby tea sets, a speciality with these makers, is on view.

Alleged "Commercial Trickery"

Some time ago a trade paper in Queensland published the following note:—

"Commercial immorality is a distasteful topic, but it cannot be ignored on that account, especially when the instance is as blatant as the one reported by one of our subscribers during the past few days. It would appear that certain German manufacturers have been annoyed at the success which a certain brand of British hollowware has long enjoyed among wholesale buyers in a number of foreign countries. They have, therefore, calmly analysed the enamels used for finishing various utensils, produced a colourable imitation, and with this and a replica of the British firm's trade mark, they are doing business at prices extending even to 33½ per cent. below those quoted by the British firm. The majority of hollowware and enamelled-ware manufacturers in Germany may deplore this pirating as much as we do ourselves, but the fact remains that it is not the only incident of the kind which has come to light recently. Indeed, it must be said that there is more than a suspicion that commercial trickery is becoming as rife in Germany as it was in pre-war days, and that there is a real need for German manufacturers' organisations to take the matter up, lest in time suspicion begins to fall on the many as well as the few."

A British firm engaged in the manufacture of hollowware saw this statement and wrote to their Australian agents on the subject. On behalf of the latter we took the matter up with a correspondent in Brisbane, who has made inquiries in various directions, wholesale and retail, the Hardware Merchants' Association being approached among others likely to help. They replied that they had no knowledge of any such questionable practices in this particular field, and our correspondent is satisfied that so far as Queensland is concerned there are no grounds for such a report. He also called upon the editor who gave it publicity and found that in writing as he did he had no specific instance in mind. Most of what he wrote was based on the talk of a business man from another part of Australia.

Make the Advertising Pay

A Page of Hints and Helpful Criticism

Send Us Your Ads ∴ Let Us Solve Your Problems

THE OVER-USE OF SUPERLATIVES

For some time there has been a general condemnation of the "over-use of superlatives." Everybody seems agreed about it, and everybody, as surely, leaves it to the other fellow to commence the good work of elimination.

Hand in hand with the discussion goes its brother in the form of a slogan "truth in advertising." So nearly identical are these two that they must be twin brothers.

It would be manifestly impossible for any advertiser to over-use superlatives and at the same time maintain strict truthfulness.

We very nearly wrote that in these days the buying public are not such fools as to believe statements as—"the best yet"—"the greatest sale on earth"—"the super super-car," etc., but as long as the world goes 'round a small percentage of folks will always fall to such claims.

However, it can be asserted with little fear of contradiction that the great majority of people regard such boastfulness with no more than passing notice; and that being so, it is waste of valuable space to print it.

"Reason why" copy is by far the best way of gaining the public confidence. If advertisers would pick out some selling-point, or points, that their particular goods exhibited to a marked degree, much of the great problem of where to begin and how far to go would be solved.

A vigorous campaign of sincere and decently modest advertising should be mapped out accordingly; and it is surprising how strong such copy can be made. It matters not whether the medium be a poster, a show-card, or newspaper space, a good pithy "reason why" argument will soon prove its worth.

A Good Example

We reproduce here an excellent example of strong, forceful advertising of a most convincing nature.

And not a superlative used in it!

For the man having use for such a weapon as an automatic pistol the reasons why he should have a


"Colt" are abundantly set out and dealt with.

The illustration is clear, simple, and apt; and the tout ensemble of the lay-out is a model of how to use a small space to the best advantage.

would collect a minimum fee of two guineas per annum and would use the money so contributed for propaganda purposes in the interests of the trade in that particular area. Comparatively large spaces would be taken in a selection of the daily or weekly press and with other matter the advertisements published through these media would carry the names in alphabetical order of the contributing ironmongers. "Get it at your ironmonger's" would appear as a slogan on every advertisement and beneath this would be given the list of names mentioned.

Mr. Emberson admits that so far as they did any good such advertisements would benefit ironmongers who contributed nothing to the fund. He asks contributors

"Colt Automatic Grip Safety"



The U-shaped bar (A) securely blocks both hammer (B) and trigger (C) until the safety grip (D) is pressed inward and the trigger intentionally pulled.

Makes the COLT Automatically SAFE

SOME people still think a Colt Automatic Pistol is too complicated for them. Quite the contrary; it is just as safe and easy to handle as a Colt Revolver—the arm everyone understands.

The Colt Automatic Pistol has two safety features.

The *Automatic Grip Safety* cannot be released until you intend to shoot. The grip (or handle) must be grasped at the same time the trigger is pulled.

The *Slide Lock*, which is on the outside, is an additional safety operated with the thumb. It makes the arm doubly safe when it is put away or carried in the pocket.

In five minutes any Colt Dealer can teach you how to handle a Colt Automatic Pistol.

The new Colt Catalog explains all Colt Safety Features
COLT'S PATENT FIRE ARMS MFG. CO., Hartford, Conn.
Pacific Coast Representative
Phil. B. Bickart Co., 117 Market St., San Francisco, California

The Arm of Law and Order

Co-operative Advertising

Before the London and Home Countries Ironmongers' Association, Mr. Ernest E. Emberson, an advertising expert, recently outlined a scheme for collective or co-operative advertising among ironmongers. The desire or object is to counter the activities of the departmental stores, and the scheme proposed is briefly the establishment of a central fund for advertising the ironmongers and ironmongery stocks of any particular town or district.

From every ironmonger prepared to join the scheme, Mr. Emberson

to be prepared for that. Nor are they to expect any immediate or marked increase of business through the collective advertising which he suggests. He puts it forward rather as a means of "stopping the drift" and familiarising the public with the ironmonger and what he stands for as against the stores and what they stand for. It would arrest further encroachment and gradually recover something of what has been lost.

After some discussion pro and con the matter was referred to the committee for consideration and report.

News from Abroad

Fireproof Plywood

The rapidly expanding Swedish plywood industry is expected to receive an added impetus through the invention of a new process for making the plywood practically fireproof. Through this new process the surface of the plywood is covered by a thin layer of a special composition, which gives it an appearance of being polished. The surface is very hard and transparent, showing the grain of the wood, and is not affected or spoilt by wear. It can be set on fire only at an extremely high temperature.

Cutlery and the Merchandise Marks Act

According to reports cabled from London, the standing committee appointed by the Board of Trade under the Merchandise Marks Act has reported on the inquiry whether imported cutlery should be required to bear an indication of origin.

The committee recommended that various classes of imported cutlery shall bear the indication of origin. These include knives other than surgical knives or knives for use in machines, scissors, razors other than safety razors, carving forks, knife sharpeners and safety-razor blades.

Polish Metal Foundries

Early in August the Australian daily press published the following cablegram from Harsand:—

The newspaper "Polonia" reports that the Government has given the Harriman group of American financiers the right to work for twenty years the Bismarck, Laura and Kattowitz foundries, which are the bulk of the former German metallurgical industry in Upper Silesia. The group is to form a holding company with a capital of £10,000,000. It has undertaken to employ only Poles and Americans, where formerly many Germans worked. The German press is denouncing the agreement.

Canada to Appoint More Trade Agents

The Canadian Government is steadily pursuing its policy of fostering the country's export trade. The Minister of Trade and Commerce recently informed the Canadian Manufacturers' Association that it was proposed to appoint a number of additional trade commissioners to countries where the Dominion was not now represented. The Government has also announced its intention of subsidising additional steamship services carrying Canadian exports to every country of the world. Further, in the hope of promoting trade in flour, dried fish, canned goods, motor-cars, refrigerators and lumber in West and South Africa a fortnightly steamship service from Montreal to the principal African ports is to be resumed next month by the Elder Dempster Company.

Kerosene Lamps in China

Because of its lack of electric current the interior of China offers an immense market for kerosene lamps. Most of those in use are imported from abroad, principally from Japan, the United States, Germany and Great Britain, the Japanese variety being the most popular because of their low price. A lamp factory established in Shanghai by the Japanese was taken over some time ago by a Chinese manufacturer and to-day there are several other Chinese makers of lamps in that city. The Standard Oil Co., of America, also have a factory

in Shanghai producing very cheap kerosene lamps. A larger number of local glass factories are at work turning out lamp glasses and shades. Some years ago the business of the Chinese lampware manufacturing works in Shanghai was estimated at £200,000 per annum, but the turnover has been reduced "owing to adverse conditions."

Cocoon Fibre for Sacking

According to cabled reports, Mr. J. Van Cooth, of Melbourne, has had experiments made in Belfast with a process in which he is interested for using the fibre of the cocoon in the manufacture of woolpacks and other such fabrics. He is well satisfied with the results, and so, he says, were the experts to whom these results were submitted. The samples produced by Belfast manufacturers show that the material, when woven and calendered under a pressure of from 50 to 70 tons to the square inch, gave a bagging fabric which should be useful not only for woolpacks and cornsacks, but for holding wheat, coal, potatoes, cement and other commodities. The expectation is that it will be able to compete in price with the Indian jute products which now hold the Australian market. If so it should form an important addition to the manufacturing industries of the Commonwealth.

Rubber Paving Blocks

A company has been formed in England with a capital of £105,000 to undertake the manufacture of rubber blocks for street paving purposes. The first cost of such paving is admittedly high, but this, it is maintained, will be more than offset by the saving of depreciation in building structures, and the intention is to begin with important bridges and the roadways contiguous to valuable or historic buildings. For freedom from vibration, as well as for durability and cleanliness, rubber is unrivalled as a paving medium.

The company will take over the experimental work of Universal Rubber Paviers, Manchester, 1923, and will continue to manufacture the Gaisman block. Most of the shares will be taken up by members of the Rubber Growers' Association and in addition to a regular board of directors, it will have the assistance of a strong honorary consultative committee of leading growers. The promoters say as a result of extended experiment that rubber roads can be put down and maintained with complete success. Outside of Great Britain licenses will be granted for the manufacture of the blocks.

Fuel Research in South Africa

The Minister of Mines and Industries is considering Dr. Meyer's interesting proposal to establish a fuel research institute. The main work of such a body would be research leading to the establishment of an oil industry, and the suggestion is made that it might prove possible to bring into being, simultaneously with the iron and steel industry, a subsidiary company for the production of tar. Tar, of course, is being produced in small quantities, but when the iron and steel industry is in working order, they will be the biggest producers. The idea is that the subsidiary company will not be controlled by the Government but by the Iron and Steel Corporation and run as an ordinary commercial concern. The sum of £100,000 is spent on agricultural research and no one grudges this expenditure in view of its valuable results. It is estimated that to establish a fuel research institute would require an initial outlay of £30,000. The proposal is that the Government should launch this institute with a grant annually of £30,000, to be increased as results justify a larger sum. It is understood that the Minister of Mines and Industries and the members of the Government generally are favourably disposed towards this proposal.—"Industrial and Commercial South Africa."

Personal and Social

Becomes a Director

Mr. E. H. W. Westwood has left the engineering department of Noyes Bros. (Melbourne) Pty. Ltd., to become a director of the McColl Electric Works Pty. Ltd., Cobden-street, North Melbourne. For some time Mr. Westwood has been hon. secretary in Melbourne of the electrical engineering branch of the Institute of Engineers.

Appointed General Manager

Mr. H. L. Carter has been appointed general manager of Craig, Williamson Pty. Ltd., Elizabeth-street, Melbourne, in succession to Mr. W. H. Shepard, who retires shortly. Before the business changed hands Mr. Carter was a director of the old company of the same name. He has had charge of the hardware, crockery and crystal departments for the past fifteen years.

Departmental Manager

Mr. S. J. Tighe, of Scott, Henderson & Co., 9-13 Young-street, Sydney, has taken over the management of the indent and agency departments of that firm, with whom he has been associated for fifteen years. Mr. Tighe is well known in hardware circles throughout Australia, having travelled for various lines over a number of years. He is president of an accountants' institute in Sydney.

Testamentary

By his will the late Mr. John McGregor Dawson, steel founder, of East Brunswick, Melbourne, left property valued at £24,958 to his children, being £12,978 realty and £11,980 personalty. He was a large shareholder in Dawson & Sons Steel Foundry Co. Pty. Ltd.

By his will the late Sir Aaron Turner Danks disposes of estate valued for probate purposes at £195,728, being £5520 realty and £190,208 personalty. Of the latter £155,775 is represented by shares. Lady Danks and the two remaining children, Miss Annie Danks and Mr. Frederick Miles Danks, are appointed executrices and executor of the will. The son is to have the tools, scientific instruments and certain other personal belongings of the testator, while the widow is to have the use during her lifetime of the home at Canterbury, with all it contains. The residuary estate is to be divided into four equal parts, one of which is to go to the daughter and the other to the son absolutely. Half of the income from the other two parts is to go to Lady Danks during her lifetime and the other half devoted to "charitable purposes." A Danks Trust is to be established, and the income from the fund distributed half-yearly. It is the wish of the testator that the widest interpretation which the law permits shall be given to the word "charitable" as used above.

Dinner and Dance

Early in August the staff of Mate's Ltd. met in Malcolm's Hall, Albury, for their annual dinner and dance. They assembled at the invitation of the directors and were presided over by Mr. Robert Thornton, the managing director, Mr. D. A. Thompson, the governing director, having had to go away for a rest. His good wishes had been received by

letter that morning, and a telegram of gratitude and good wishes was sent to him from the happy gathering.

Begun as long ago as 1850, the business of T. H. Mate & Co., grew with the town and district. The founder, Mr. T. H. Mate, held the reins of management until 1890, when the firm was formed into a family company with Mr. G. A. Thompson in charge. When that gentleman died he was succeeded as governing director by Mr. D. A. Thompson. The founder has been dead for some time and within the past year another member of the family, Mr. W. H. Mate, at one time a director of the company, was also called away. Mr. J. B. Wilson, who had been with the business for thirty-five years, and who in 1926 retired from the position of managing director, was succeeded by Mr. R. Thornton, the chairman of the function under report.

Proposing the toast of the firm, Mr. J. F. Beldridge, who has been their solicitor for many years, traced the history of the business and spoke of the enterprise and probity of those who had been responsible for its conduct from the earliest days, when Mr. Mate was the banker as well as the merchant of the district.

Mr. Thornton expressed his thanks for the way in which the toast had been submitted and received. He went on to speak of the present governing director's capacity for management and interest in the staff. Their welfare was near his heart and the boys especially had in the "chief" a true friend.

Dinner over, the hall was cleared and dancing was indulged in to the music of Morrall's Master Musicians.

Death of Mr. H. N. Davies

After an illness extending over twelve months, Mr. Hedley Naunton Davies, who had charge of the brass and iron foundry section of Davies, Shephard & Co. Ltd., brass-founders and general engineers, Petersham, Sydney, died at his residence, Rosemont Avenue, Summer Hill, on August 8, aged 59 years. The deceased was one of five brothers on the directorate of the company and was actively engaged in the work. Before connecting himself with the works in Sydney he had been employed at the iron and steel foundry of Davies & Baird, Brunswick, Victoria.



Late Mr. H. N. Davies

The late Mr. Davies was for many years closely associated with Masonry and was a member of the Masonic Club, Sydney. He was also a popular member of the Ashfield Bowling Club. These interests were represented at the burial in the Congregational Cemetery at Rook-

wood, where many of the company's employees also assembled.

The deceased leaves a widow and family of four—two sons and two daughters.

Death of an Electrical Engineer

The death is reported from Dunedin, New Zealand, of Mr. Robert Clayton Jones, of Turnbull & Jones Ltd., electrical engineers and contractors, with headquarters at Wellington and branches in other large centres throughout the Dominion. At one time chief electrical engineer to the Union Steam Ship Co. of New Zealand Ltd., the deceased subsequently joined Mr. Robert Turnbull in establishing the business with which he had been associated ever since. He was 75 years of age and leaves a widow and two sons. One of the sons, Mr. R. L. Jones, is the firm's manager at Dunedin, while the other, Mr. J. M. Jones, is their representative in London.

Tragic Death of a Hardware Merchant

Tragedy closed the life of Mr. Arthur Fostyn Drayton, managing director of Ashby, Bergh & Co. Ltd., wholesale and retail hardware merchants, of Christchurch, New Zealand. On the evening of August 17 his body was found hanging from the ceiling of a room on the premises occupied till lately by Dainties Ltd. From his own firm's warehouse he drove his car to this other place in which he was interested and there his dead body was subsequently found. At the inquest the Coroner, Mr. H. P. Lawry, said: "Mr. Drayton was one of our best citizens and we can ill afford to lose men of his stamp."

Mr. Drayton was 61 years of age, and leaves a widow, three sons and a daughter. He started as a lad with J. Plaisted & Co. and was a traveller for that firm for many years. When they were bought out by Ashby, Bergh & Co., Mr. Drayton continued as traveller and subsequently became manager and managing director.

Very active in public affairs, the late Mr. Drayton was a member of the Canterbury Repatriation Board and chairman of the committee. He was a member of the Canterbury Patriotic Fund, the Unemployment Relief Committee and of the Canterbury Progress League and president of the Christchurch Hardware Association. For many years he was chairman of the East Christchurch School Committee and was connected with the East Belt Wesleyan Church.

At the inquest Dr. Bates said that he had attended Mr. Drayton during the previous two weeks. He had suffered from influenza and was struggling along with his work. His heart had given way and he had the premonitory symptoms of a stroke. For a week he had stayed at home, but was very anxious to get back to work as the firm had just finished stocktaking and he wished to price the stocksheets. Consequently he (the doctor) allowed him to go half time. He was depressed about the state of his health and his own private business affairs, having lost heavily when Dainties went bankrupt and in his condition he would be likely to have a sudden fit of dementia.

A verdict of suicide while in a state of unsound mind was returned.

The late Mr. Drayton was very popular in hardware as in public circles and never spared himself in helping others. In fact he appears to have taken too much of other people's burdens on his back, and when his health broke down his mind suddenly gave way under the strain as he was the last man one would have expected to take his own life. His popularity was evidenced by the many wreaths placed on the coffin and the large number of representative people who attended the funeral.

Death of Mr. John Heine

The passing of Mr. John Heine, senior, on August 14, in his seventy-second year removes one of the best known and most respected pioneers of machinery manufacture in Australia. Until he took ill some three months ago he had been actively engaged in the business of his firm, John Heine & Sons Ltd., Leichhardt, Sydney.



Late Mr. John Heine

A native of Devonshire, England, the late Mr. Heine served his apprenticeship in a general engineering shop in the village of Buckfastleigh where he was sometimes sent a distance of eight or nine miles on foot to effect repairs in flour or woollen mills or other industries. Completing his term he went to New Zealand whence after a short sojourn he crossed to Sydney in 1879, obtaining employment with Howe & Rose, sheet metal workers. A few years later he started in business on his own account at Redfern. The remarkable growth of the business has been already recorded in the pages of this journal. Thorough in his work, persevering and of pleasant personality it was little wonder that success followed him continuously. In 1917 the firm erected their present factory at Allen and Francis-streets, Leichhardt, admittedly among the largest and best of its kind in the world. Their speciality is the production of machinery for sheet metal working, meat and fruit canning industries which, by the ingenuity of labour saving devices and other improvements from time to time, has rendered a great service to those industries.

The deceased is survived by a widow and four sons, Mr. John Heine, junr., who worked beside his father graduating through all the mechanical branches of the business before taking over the management, and who is now president of the Metal Trades Employers' Association, Mr. Alfred Heine, works manager, who is at present making a business tour of America, and Mr. Victor and Mr. William Heine, who are also associated with the firm, and a daughter, Mrs. J. T. Adcock.

The funeral which took place at the Church of England Cemetery, Rookwood, was attended by a large number of family friends, together with representatives of all branches of the engineering and metal trades in Sydney and even further afield.

Genuine Antiques.

Dealer in antiques: "Yes, this cake basket belonged to Queen Elizabeth."

Customer: "But it's labelled 'Birmingham'!"

Dealer: "It was presented to Elizabeth by the Corporation."

Needless to say, the joke is that there was no corporation in Elizabeth's time. Birmingham was not incorporated until 1838. Reminds one of the "genuine mummy" purchased in Egypt by another collector. On the way to England the case had a fall and the mummy burst open. Then it was found to be stuffed with copies of "The Manchester Guardian" of a few years before!

Interstate General News

Theft of Glassware

Three men were before the North Melbourne Police Court on August 6 in connection with the theft of £30 worth of lamp glasses and other goods from the works of Dott & Co. Pty. Ltd.—Joseph Scheberras (labourer) and Victor Campbell (watchman) on a charge of having stolen the goods and James A. H. Jones (ironmonger) on a charge of receiving. All three were committed for trial at the Supreme Court.

Australian Imports of Agricultural Machinery

For the year ended June 30, 1928, Australia imported agricultural machinery to the value of £691,078. The figures for the three previous years and the principal countries supplying the imported goods are shown hereunder:—

Year	Canada	U.S.A.	Great Britain	Total
1924-25 . .	£387,205	£280,886	£109,492	£784,024
1925-26 . .	376,502	262,322	116,323	761,766
1926-27 . .	361,591	252,050	100,006	722,094

Summer Time in New Zealand

On July 25 the New Zealand House of Representatives defeated by 33 votes to 23 the second reading of the Summer Time Re-Enactment Bill. The sponsor, Mr. T. K. Sidey (member for Dunedin South) pleaded for a further year's trial if permanent re-enactment was considered undesirable, but in the opinion of a majority one year's trial had been quite enough. Opposition came mainly from country members and stories of inconvenience and even loss among farmers through such interference with solar time were told during the debate.

One year of so-called "daylight saving" was all that Australia could stand, and we are not surprised to find that experience repeated in New Zealand.

War Memorial at Wellington

The New Zealand capital is to commemorate its gallant dead in the Great War by the erection of a bell tower and carillon. Promised by different people or groups of people, the bells are being cast in England by Gillett & Johnston, of Croydon, and the question of the campanile to receive them has now to be faced. For the steel framework of this structure the Government have promised a sum of £15,000, the tower to form an architectural adjunct to the proposed National Art Gallery and Museum on the Mt. Cook site. At a meeting of the Carillon Committee on August 3, it was decided "That the chairman be authorised to consult with the Government with regard to the erection of the campanile for the Wellington carillon."

Finances of New Zealand

A surplus of £179,076 was revealed in the Financial Statement presented to the House of Representatives by the Minister of Finance (Mr. W. D. Stewart) on August 7. Revenue decreased by £188,245, and net expenditure increased by £231,166. Due to a continuous and rigid supervision, expenditure subject to administrative control dropped by £90,000. The Minister considered that there was not a sufficient margin to render a tax reduction for this year either practicable or safe; but said that improved revenue resulting from increasing prosperity should enable a reduction to be made in the near future. The Estimates for the current

year foreshadow a surplus of £260,146. "In arriving at these results," said the Minister, "I have had to allow for the many factors that at present make accurate estimates difficult to forecast. We are in a transition period, when the chief sources of revenue are in full bud, but not yet in flower."

Iron and Steel Industry

On August 29 the first blast furnace of Australian Iron & Steel Ltd., at Port Kembla, New South Wales, was brought into operation. The "blowing in" ceremony was performed by Mrs. C. H. Hoskins, wife of the chairman of directors of the company. Besides the blast furnace this first unit of the plant will comprise steel furnaces, soaking pits, rolling mills for blooms, rails, bars and all structural sections as well as works for the production of De Lavaud cast iron spun pipes. The works are being laid out for the manufacture of the various products with the least possible handling of materials.

As shown in a recent issue, Australian Iron & Steel Ltd. represent a joining of forces on the part of two Australian and two British companies—Hoskins Iron & Steel Co. Ltd. and Howard Smith Ltd., of Australia, and Dorman, Long & Co. Ltd. and Baldwin's Ltd., of England. Hoskins Iron & Steel Co. Ltd. disappear in the new company, but the others, while all represented on the directorate, only associate themselves in varying degree and outside this limited merger retain their identity. Howard Smith Ltd. are ship owners and colliery proprietors.

New Machinery Showrooms

Goodall & Co. Ltd., whose business has been conducted hitherto in the three storey premises at 303-05 Kent-street, Sydney, have lately erected new premises comprising five storeys and basement on the adjoining site which will be known as Goodall House. With a frontage of 49 ft. by a depth of 120 ft. the new building gives three times the accommodation of the old. It is constructed of concrete with dark brick facings and every consideration has been given to lighting, ventilation and conveniences for the staff including luncheon rooms, as well as modern facilities for the display and handling of stocks. Connecting with the basement which is used as a bond is a large vehicular dock.

The ground floor, set apart for the display of machinery and engineering tools, is provided with large display windows. Executive offices engage part of the first floor and the remainder is being fitted up as a special showroom for machine tools, while the second floor is devoted to woodworking machinery, a section being set apart for the accounting and secretary's offices. Stocks of engineering machinery and tools find space on the third floor and the fourth is used as a bulk store. Liberal size passenger and goods lifts have been installed.

Notes From Brisbane

The Royal Show in Brisbane this year showed a net profit of £9251 notwithstanding that the attendance was seriously interfered with by rain on the principal day. It is suggested that the duration of the next show should be extended to ten days, and that provision should be made for aviation exhibits.

A Bill is now before the Queensland Parliament in which it is proposed to inflict more drastic punishment on motorists convicted of drunkenness, by imprisonment in place of fines.

Overells Ltd., of Fortitude Valley, Brisbane, have purchased the adjoining property occupied by Whincups Ltd., together with the entire stock, fittings, etc. It is understood that the price paid amounts to £39,600, or £600 per foot for a 66 foot frontage to Brunswick-street. Whincups Ltd. carried on a very successful business as general house furnishers and ironmongers. When the extensive alterations are completed it is considered Overells will possess one of the largest departmental stores in Queensland.

It is rumoured that the premises of Hayes Ltd., also in Fortitude Valley, have been purchased by Woolworths Ltd., but price and particulars are not yet available. Hayes are drapers and grocers.

Petrol Pumps

Before the Legislative Council of Victoria is "a Bill Relating to Petrol Pumps." It is a Government measure and is to be read and construed as one with the Local Government Act, 1915, and any amendments thereof. Petrol pump is defined as any pump for supplying motor spirit, while municipalities and municipal districts include the cities of Melbourne and Geelong. Municipal authorities are empowered to grant, renew, transfer and cancel licenses for such pumps within their respective districts, to say where and how such pumps shall be erected, to prevent obstruction by their erection, and generally to impose regulations governing the whole matter. The annual fee for any and every such license is not to be less than £2/2/- nor more than £10/10/-, providing that proportionate reduction may be made for any term less than twelve months. For the transfer of a license not more than 10/- may be charged, and all licenses must terminate on September 30 of each year. The classes or types of pumps to be erected may be prescribed under the Local Government Act, 1921, and that either for the whole of Victoria or for the whole or any part of any particular municipality. Where in the opinion of any municipal authority any petrol pump is causing or likely to cause obstruction to the traffic the authority may not only cancel the license but cause the licensee to remove the pump at his own expense. Penalties are provided for any breach of the provisions or any refusal to comply with such reasonable regulations as may be imposed by the municipalities.

A Patent Case

The Victorian Chief Justice (Sir William Irvine) was occupied during the month in the hearing of a case regarding patents for the spraying of metals on to smooth surfaces. Plaintiffs were the Aluminothermic & Metal Sprayers Ltd., of Sydney, and defendants the Engineering Specialties Pty. Ltd., of Melbourne.

Plaintiffs claimed to be the owners of two letters patent dated 1913 and 1922 respectively, covering a process and apparatus for coating surfaces with various substances. Defendants, they said, had infringed these patents and they sought an injunction in restraint with an inquiry concerning loss and damages and the surrender of all articles and devices held in infringement of their rights.

Defendants pleaded that the alleged invention was not novel and that it had been previously published. Regarding the 1922 letters patent, they said that the alleged invention, or as much of it as might be found to be infringed, was not proper subject matter for a grant of letters patent having regard to the common knowledge in the art of metal spraying at that date.

Delivering reserved judgment on August 16, His Honour said there was no evidence that the defendants had used a process resembling the plaintiffs' 1922 patent. He held that plaintiffs' 1913 patent was valid, and on the strict legal construction there had not been any infringement of this

by defendants. There would be judgment for defendants, with costs, excepting the costs of the issues on which plaintiffs had succeeded.

New Zealand Trade

Imports into New Zealand for the first half of the year amounted to £20,915,700 as compared with £22,200,704 last year, and £24,716,580 in 1926. The principal lines of metal goods and machinery amounted to £2,776,029 as compared with £3,481,849 in 1927, a decrease of 20 per cent. The following table gives a comparison of values for the half year:—

	1928	1927	1926
Cement	£4,284	£11,687	£5,851
Hardware, Cutlery, etc.	418,685	485,367	547,633
Iron—Bar, bolt, rod . . .	107,956	192,043	140,072
Bolts and Nuts	36,121	42,080	49,419
Plate, black	64,716	68,885	52,953
Galvanised sheet	140,657	331,400	318,230
Fencing wire	71,075	53,321	63,570
Barbed wire	27,353	23,881	40,069
Pig and scrap	9,745	9,000	18,546
Pipes and fittings	242,420	290,313	311,268
Lead	31,089	35,520	61,369
Machinery—Dairy	85,561	43,507	55,799
Agricultural	59,370	72,445	81,205
Electrical	871,542	1,123,962	1,092,442
Engines—Gas, Oil, etc.	89,741	86,545	143,919
Sewing	55,987	48,824	47,144
Nails	26,443	40,974	38,452
Plated Ware	35,679	35,092	36,399
Railway & Tram Plant . . .	95,161	141,732	85,476
Tin and Tinware	133,141	146,300	145,591
Tools and Implements . . .	131,658	155,751	166,620
Wire Netting	37,645	35,651	19,987

Over a third of the decrease is in electrical machinery, which has now passed the peak of importation. Bar iron, galvanised iron, iron pipes, and railway and tramway plant show heavy decrease.

Tasmanian Carbide of Calcium

A Bill to approve a certain agreement entered into between the Government of Tasmania and the Australian Commonwealth Carbide Co. Ltd., has been brought before the Tasmanian Parliament by the premier (Mr. J. C. McPhee). The company purchase from the State the carbide works at Electra on certain terms, including the old stocks of "Tasma" carbide at the nominal price of 5/- per ton, and the State guarantees the payment for a term not exceeding five years of an 8 per cent. dividend on £180,000 of preference stock provided that the company continue to produce carbide, and also provided that no capital expenditure in excess of £1000 shall be undertaken by the company without the sanction of the Government and that not more than £2500 shall be spent yearly on the company's office in London and in remunerating the local advisory board.

Regulating Cash Orders

Two private members have brought before the Victorian Parliament proposals for regulating the use of cash orders, as they are called. The bill, which was read a first time in the Legislative Assembly on July 26, confines to licensed persons and corporations the issue and redemption of such orders and restricts the list of persons to whom they may be issued. To take the last point first, no person under twenty-one years of age is to be supplied with a cash order nor any married woman (1) unless she is the sole or main support of herself or her children; (2) unless she is living apart from her husband; (3) unless she has obtained an order against her husband, or (4) unless she has

the consent of her husband: A new license costs £5 in the case of an individual and £15 in the case of a corporation, a renewal £3/3/- and £9/9/- respectively, a transfer £1, and a duplicate license 1/-. Every individual applicant for a license must lodge a fidelity bond for £500 and every corporation applicant a bond for twice that amount. When the license is granted the person or corporation must comply with the provisions of the act including the display of name and status as a licensed cash order trader on the premises in which business is conducted. If the person to whom a cash order is issued is unable within four weeks thereafter to secure the goods the order may be returned and the full amount of the deposit demanded with the alternative of recovery in a court of petty sessions. Every license is held subject to the observance of the provisions of the act and may be revoked at any time on cause shown. The appointment of a registrar is contemplated.

These are the main features of a measure running to thirty-one clauses. It is spoken of here as if already passed into law, but that, of course, is not the case. Merely a proposal, and that of certain private members, it has yet to be discussed by two bodies of men, some of whom would leave this questionable business as it is while others would put a stop to it altogether.

The Ironsand of New Zealand

Fresh proposals for the smelting of the Taranaki ironsand have been put forward. A company is to be formed in England with this object, so it is said. At any rate the representative of the proposed company has written to the New Plymouth Harbour Board making inquiries about the terms of lease, labour conditions and so on. The chief difficulty hitherto has been the presence of titanium in the ironsand, but this can be overcome, the report says, by using dense peat charcoal in special furnaces. Peat bogs are found in the north of New Zealand and this is the material which the promoters intend to utilise.

From the latest issue of the "New Zealand Official Year Book" we take the following statements:—

"Along the seashore from Patea to New Plymouth occur large quantities of magnetic ironsand more or less titaniferous. This has originated through the disintegration of hornblende-andesites and their tufas, which occur very extensively near New Plymouth around the volcanic cone of Mount Egmont. It is quite impossible to give any definite idea of the quantity of this ironsand, undoubtedly, however, it exists in immense quantities, and is measurable in millions of tons.

"The most extensive deposit of ironsand occurs near Patea, the quantity of which has been estimated to be at least 5,374,000 tons of high-grade ore in addition to a great quantity of low-grade ironsand.

"Between the years, 1869 and 1918, several attempts were made to smelt Taranaki ironsand.

"In 1921 the Mines Department arranged for the shipment of 20 tons of the material to Thomas Summerson & Sons' works at Darlington, England, for the purpose of having tests made to ascertain by that firm's process the suitability of the sand for the production of pig iron and steel therefrom. The experiments, which were conducted under the supervision of Professor Harbord, representing the New Zealand Government, were made in an electric furnace. The results were not quite satisfactory, considered from a commercial point of view, as the cost of producing pig iron and steel was too high."

Mineral Production in Tasmania

From the report of the Director of Mines in Tasmania for the year 1926-27, we take the following statement of the quantity and value of minerals produced in that State during the twelve months:—

Mineral	Quantity	Value £
Cadmium tons	19.2712	3,233
Carbide "	2,072	34,986
Copper "	5,811	362,988
Coal "	112,056	99,802
Cement "	38,690	176,779
Gold oz. f.	4,860.7	20,646
Lead tons	5,583.12	135,403
Limestone "	169,522	167,373
Nickel "	86.2	14,656
Ochre "	—	—
Osmiridium oz.	632.687	7,456
Silver oz. f.	741,782	87,024
Shale tons	3,150	2,050
Tin "	1,105.74	317,593
Tungsten "	148.57	9,886
Zinc "	6,326.2	181,242
Total	—	£1,621,027

"The Electrolytic Zinc Company recovered 43,239 tons of Zinc, valued at £1,230,525, and 135.538 tons of Cadmium, valued at £22,770, from other than Tasmanian ores, and employed an average of 945 men.

"Metallic products were valued at £1,140,127, or 70.3 per cent. of the total. Non-metallic products, excluding structural materials, were valued at £101,852, or 6.2 per cent. of the total, and structural materials such as cement, limestone, etc., at £379,048, or 23.5 per cent. Compared with 1926, the metallic products showed a decrease of 14.2 per cent., non-metallic products an increase of 9.9 per cent., and structural materials a decrease of 2.3 per cent. The metallic products increases are recorded in tungsten, nickel, cadmium, gold and zinc, and slight decreases in lead, tin and silver, and great decreases in copper and osmiridium. Amongst non-metallic products, increases are recorded in both coal and shale. Structural materials showed a decrease in carbide and increases in cement and limestone. No records have been kept of clay products.

"Copper still continues as the most important mineral product of Tasmania, despite the reduction in output, due to the labour strike at the Mount Lyell Mining and Railway Company's works. Tin retains its position as second on the list of mineral products, the greater part coming from the North-Eastern District, where developments indicate an early increase in production. Zinc is third on the list, and is likely to occupy a more prominent position in the near future. Within three years it is expected that the output of the Read-Rosebery Mines will show a marked increase.

"A falling-off is recorded of lead and silver, due, in large measure, to the falling-off in the prices of those metals.

"Perhaps the most noteworthy reduction is that of osmiridium. The output of that natural alloy is dependent upon the market price. At the low rates ruling in 1927 the richest deposits only could be worked at a profit. Tungsten and gold remain low on the scale, the former because of the lower post-war prices. Nickel appears on the list of products, but is a record of sales of ore held in stock since 1914. There is a likelihood, since a market has been found for this ore, that the old mines in the neighbourhood of North Dundas will be reopened.

"Coal shows an increase both in point of tonnage and value, and the output would have been much

greater had not the Catamaran Company failed in their operations. It is likely that mining will be resumed early in the new year.

"Cement and limestone production show appreciable results.

"All the metals, except copper and gold, showed a serious falling-off in average price, and this is reflected in the value of the output. There appears now a slight upward trend, which augurs well for the coming year."

Although no iron has been shipped from Tasmania since 1908, it is shown that at date of the report, Hoskins Iron & Steel Co. Ltd., hold leases covering 511 acres at Heemskirk; 35 acres at Mangane Hill, and 154 acres at Rio Tinto; while R. E. and L. J. Smith and party held a lease covering 90 acres at Hampshire. All these leases are of magnetite deposits "which are richer and purer than the hematite."

Motor Cars in City Streets

To regulate the flow of motor traffic and prevent the leaving of cars about the streets indiscriminately the Melbourne City Council passed certain by-laws last year. Among other things these appointed "parking areas" at different points with attendants in charge where any owner could leave his car on payment of a shilling for the whole day or any part of it. But a test case before the Chief Justice showed that the Council had no authority to make such a charge; consequently the practice was abandoned and the attendants withdrawn.

Representations on the subject were made to the State Government, and the result appears in a Bill now before the Legislative Council. A ministerial measure, this concedes not only to the Melbourne City Council, but to all municipal bodies throughout Victoria, authority to deal with motor cars at rest as well as running within their respective areas. Such bodies are empowered to fix places where cars may be "parked" under such reasonable conditions as may be imposed, the charge for this privilege not to exceed one shilling per car per day. Section 3 sets out in detail the conditions governing the regulative by-laws which municipalities may make, and Section 5 adds that they must have, in every case, the approval of the Governor-in-Council.

Notes From Canterbury, N.Z.

The Winter Show and Industrial Exhibition, the second held under the joint control of the Canterbury Agricultural and Pastoral Association and the Canterbury Manufacturers' Association, was opened on August 11 in the King Edward Barracks, Christchurch. In many respects this year's display marks a distinct advance on that of last year, and the progress made by factory and farm is pleasingly and graphically set forth. Practically every important local manufacturer is represented. Among the newcomers is the Southern Cross Glass Co. Ltd., of Ashburton, with samples of the glassware they will be manufacturing during the next few months.

An interesting type of rail motor vehicle has been completed by the Hardy Railmotors Ltd., of Slough, Bucks, England, for service on the New Zealand Railway between Christchurch and Greymouth, and will thus operate through the Otira tunnel. This tunnel is 5½ miles in length and the line through it is a single one on a gradient of 1 in 33. The superstructure of the vehicle, consisting of a tower and accommodation at each end for the driver, has been designed by the chief mechanical engineer of the New Zealand Railways (Mr. G. S. Lynde) and is being constructed at the railway workshop. In order to enable the vehicle to be tested under working conditions special temporary axles of standard

(4 ft. 8½ in.) gauge were employed with the full load on the chassis and a trailing load 1½ tons in excess of what was specified. With this gross load the vehicle climbed a gradient of 1 in 24 without difficulty at 18 miles per hour, with the engine accelerating on the steepest part of the gradient. Moreover, the load was securely held on the gradient by the footbrake alone.

Although Mr. Sidey's bill for the continuation of "Daylight Saving" for another year has been defeated, every endeavour is being made in Christchurch to institute some local system to that end, and the Mayor is convening a conference of headmasters, employers, representatives of trade unions and others. The employees in the hardware trade of the city found the extra hour of daylight liberty a great boon and benefited very considerably in health by participating in surf bathing and outdoor games.

In July, 1927, the value of buildings authorised by the Christchurch City Council was £49,722, while the total for last month was £45,994, a decrease of £3728. The aggregate for June, 1928, was £54,594. Activity in house building shows no sign of decreasing.

Recently Mr. C. Ogilvie, manager of Beath & Co. Ltd., gave an address entitled "Science in Business" to the newly-formed Canterbury Economic Students' Society, presided over by Professor A. H. Tocker. To those students who contemplated going into business, he suggested certain things which ought to be borne in mind—(1) learn business first; (2) be careful with whom you join up; (3) choose your business carefully; (4) good service and honesty are essential; (5) choose the location of your business, and (6) pay attention to turnover. There was a necessity for conservatism in stocktaking and consideration for the age of the stock. Dividends should be reasonable.

The Lyttelton Harbour Board, while appreciating the work and ideals of the Port and City Committee, cannot see its way to adopt the suggestions in regard to a tunnel road to Lyttelton and a remodelled port, but assured the committee "that it would have the port ready to receive any additional shipping that may be induced to enter Lyttelton Harbour as a result of any improved road transport between the city and the port."

The Canterbury Chamber of Commerce at its last meeting decided to take no action in regard to the proposal to subsidise a regular and improved steamer service between Melbourne, Hobart and the South Island of New Zealand. At least £100,000 per annum would be required with economy in demand at the moment.

The subject of the Economic Bulletin for the month prepared for the Canterbury Chamber of Commerce by the Department of Economics at Canterbury College deals with public finance as affected by the Great War. This Bulletin goes into the matter in great detail and includes such subjects as war debts, increase of national debts, increased taxation, growth of State taxation, effects of inflation, taxation burdens, need for economy and sound finance.

Twenty-four locomotives of a new type designed by Mr. G. S. Lynde, chief mechanical engineer to the New Zealand Railways, are to be built. These are of the 2-6-2 type, having eight wheeled bogie tenders and are primarily intended for shunting purposes. In preparing the design, however, it is anticipated that this type will also be suitable for suburban passenger traffic. In working order the engine will weigh 36½ tons and the tender 25½ tons. The boiler will have a large wide fire-box suitable for burning coal of inferior quality.

Commonwealth Tariff Decisions

The following decisions of more or less interest to the hardware trade have been made during August. By way of explanation, it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (7/6/28, and so one) the date on or from which the new decision took or takes effect:—

Burners—

- 28/673 The reference to Gas Burners including Graetzin and similar burners in Guide, page 48, is to be cancelled.

Electrical Appliances and Materials—

- 28/676 Fluorographic control units, excluding wall switches, for use in connection with X-ray apparatus. (By-law No. 1199). 415(a) 7/6/28 (2)

Electrical Appliances and Materials—

- 28/677 Telephone (Wireless) Plant—Parts of, viz.:— 404 16/7/28
Loud Speakers, not including cabinets of wood, for use in the manufacture of Wireless Receiving Sets. (By-law No. 1194.)
Note.—By-law No. 1066 as amended by By-law No. 1116 is to be further amended by deleting therefrom the reference "Loud Speakers not including cabinets" and T.D. 28/471 as amended by T.D. 28/672 is to be cancelled.

Machinery, Machines, Etc.—

- 28/678 Engines—T.D. 28/580 having reference to Crude Oil and Suction Gas Engines exceeding 90 normal h.p. is to be amended by deleting therefrom the reference "but any Engines which were in direct transit to Australia on 2nd July, 1928, and which, but for this decision, would be admissible under Tariff Item 174, may be admitted under that Tariff Item" and substituting therefor the following "but any Engines which were on firm order prior to 2nd July, 1928, and which, but for this decision would be admissible under Tariff Item 174 may be admitted under that Tariff Item, provided they be entered for home consumption on or before 31st October, 1928."

By-law No. 1090 is to be amended accordingly.
(By-law No. 1189).

Machinery, Machines, Etc.—

- 28/679 Hammers, pile driving, single direct acting, semi-automatic. (By-law No. 1190, Miscellaneous) 174 18/6/28

Matting—

- 28/680 Cane Pith, for use in the manufacture of Furniture, under security. (By-law No. 1195). 404 9/6/27

Vehicles and Parts thereof—

- 28/683 Motor Vehicle Parts—
Carriers, Tyre or Rim, Spare . . . 359(d) 18/8/28
Note.—The reference to Hubs, Dummy, etc., in Guide, page, 893, is to be cancelled. (4)

Vehicles and Parts thereof—

- 28/684 Motor Vehicle Parts—
Tracks, chain, detachable, for fitting on to the two side rear wheels of six-wheeled chassis—
If Malleable iron castings . . 209 18/8/28
Otherwise 359(f)

Wire—

- 28/685 T.D. 27/285 and By-law No. 168 having reference to Galvanised Iron and Steel Wire for use in the manufacture of Wire Mattresses (under security) are to be cancelled, but any such wire as was in direct

transit to Australia on 13th August, 1928, may be admitted, under security, under Tariff Item 404. (By-law No. 1198.)

Electrical Appliances and Materials—

- 28/653 Carbon—
Blocks, metallic, being carbon and/or graphite and copper combined, for use in the manufacture of Electrical Brushes, under security. (By-law No. 1185.) 404 18/12/27

Machinery, Machines, Etc.—

- 28/654 Alarms, high and low water, and water level indicators (combined), for boilers. (By-law No. 1172.) 174 21/5/28

Machinery, Machines, Etc.—

- 28/655 Rails, Slide, Metal, for motors, whether imported with motors or separately. 208(a) 6/8/28
Note.—The reference thereto in Guide, page 219, is to be cancelled.

Pipes and Tubes (Metal)—

- 28/658 Tubing, Steel, solid drawn, for use in the manufacture of Bore Casing Shoes, under security. (By-law No. 1187.) 404 10/11/27

Refrigerators—

- 28/659 Chests, Ice (Household). See "Chests," Guide, page 56.
Electric. See "Machinery, Machines, Etc." (T.D. 28/656).
Note.—The references (2) to Refrigerators in Guide, page 319, are to be cancelled.

Files—

- 28/705 Nail, without handles, for use in the manufacture of Fancy-Handled Nail Files, under security. (By-law No. 1238.) 404 4/10/27

Hooks—

- 28/706 Button, without handles, for use in the manufacture of Fancy-Handled Button Hooks, under security. (By-law No. 1234.) 404 4/10/27

Scissors—

- 28/710 Without handles, for use in the manufacture of Fancy-Handled Scissors, under security. (By-law No. 1235.) 404 4/10/27

Slides—

- 28/711 T.D. 25/217 having reference to Belt Slides, base metal, leather covered, is to be cancelled in view of the decision set out in T.D. 28/513.

Machinery, Machines, Etc.—

- 28/735 T.D. 27/610 and By-law No. 415 having reference to Distillation Plants for use in connection with the refining of crude oil by the cracking process are to be cancelled. (By-law No. 1252.) 27/8/28

Machinery, Machines, Etc.—

- 28/736 Magnetos, but not including spare parts thereof, for use in the manufacture or repair of Internal Combustion Engines. (By-law No. 1239.) 404 27/8/28

Machinery, Machines, Etc.—

- 28/737 Motor, Electric, viz.:— 174 10/8/28
Direct Current
Repulsion
Universal
not exceeding 1 h.p., for incorporating in machines of Australian manufacture, under security. (By-law No. 1237.)

Machinery, Machines, Etc.—

- 28/738 Motors, Electric, Repulsion Induction, not exceeding 1 h.p., for use in the manufacture of the undermentioned, viz.:—
Carbonating Machines
Mincing Machines
Mowers, Lawn
Pumps, Centrifugal
under security. (By-law No. 1240.) 404 27/8/28

An Australian in America

Through the courtesy of Mr. Louis A. Scott, of Sydney, we have had the opportunity of reading a typewritten "luncheon report" of the Export Managers' Club of New York, Inc. The date was May 22 last and the guest and chief speaker was Mr. J. D. Bell, managing director of James Campbell & Sons Ltd., Brisbane, and chairman of the Federated Hardware Merchants Association of Australia. He was introduced to the gathering by the chairman, Mr. A. M. Hamilton.

The report of Mr. Bell's speech fills several folios of closely-typed matter and covers a good deal of ground. Very fairly, as it seems to us, did the speaker deal with the position and prospects of the Commonwealth. No attempt was made to hide Australia's determination to develop her secondary industries behind a high tariff wall, nor her preference for British goods and British institutions, nor the difficulties experienced by her producers and manufacturers in the handling of labour.

Coming to his own "mission" Mr. Bell said his efforts to secure a greater measure of co-operation from those American manufacturers already represented on the Australian market had met with a measure of success. One of his complaints was that their goods were not carrying a sufficient margin of profit, while another was that in many cases they were being sold to the wrong people, as his association considered them.

"Those of you who are already interested in Australian trade possibly don't want any advice from me as to what is to be done to develop it. You have your representatives there, and they report to you fairly frequently, but those who are not yet in the Australian trade and wish to enter it, should recognise certain important factors. With the necessity of developing Australian industry and assisting Great Britain, Australians have I think an open mind for any worth-while product, and will investigate it closely. They are not so ready as you are, perhaps, to try things out and take risks. They will not experiment. They want to be quite sure that the article is good before they will use it to any extent, but once they are satisfied with it they will continue using it, and it has a good chance of staying on the market providing the conditions applying to it are satisfactory.

"Some manufacturers represented there know that once their brand is established on the Australian market, it is there forever provided that the medium through which it is distributed is satisfied with those conditions. The legitimate medium for distributing hardware, and perhaps many other things is the wholesaler, and that man is not satisfied at the present moment with his margin, and is looking for better conditions. Once the article is established—and to establish it it has to be worthy, must have value, must be competitive in price and well advertised by the maker (because the wholesaler is not going to advertise it; he hasn't the money, the time nor the facilities)—Australia will stick to it providing conditions are favourable. Many lines now on the Australian market have been there as long as I can remember, and are likely to stay there if the manufacturer recognises that the distributor has a right to secure a certain amount of profit.

"The Australian market is a high-grade market. Being an all-white population our standard of living is exceptionally good. We want quality goods and are not willing to accept stuff that certain other markets do.

"In trying to secure an entry into our market, you have to consider, of course, the method you are to adopt. It is very desirable that an Australian be appointed to look after your interests, because he will get the sympathy of the buyer rather than somebody who comes from some other part of the world. I am not saying that we don't want your people. We are very glad to see them, and we give them a hearty welcome, but those manufacturers who sell their goods through existing Australian representatives are more likely to receive support from us than those who do not. When you do send a man over you want to be discriminating as to the type you send. He should be a man who is readily conformable to the manners and conditions of the country, because there is nothing I think people resent more than one who comes to them with an air of superiority. I am not speaking particularly of Americans, but we do get people who, because they come from a bigger country, assume that we are very uncivilised, and need to be taught how to live. No more than other people do Australians appreciate being taught along those lines.

"One company here has as its established policy the employment of Australians only in its various Australian branches, and it has been very favourably commented on in many quarters.

"A very important question that has come before me since I arrived, is the use or non-use of the commission house. I have been trying to get the right angle on that, and I am afraid I haven't got it quite right yet. The commission house was regarded as essential some years ago, and still is in the purchase of most British goods, but there has been a tendency to buy direct in the last few years, and I see that tendency not only on the side of the manufacturer here but on the side of the merchant in Australia. Perhaps it is that the keen competition has made the merchant look around to see where he can save 2½ per cent., which is the charge of the commission house. It seems to me the commission agent is having a rather lean time of it. He is scarcely prepared to admit this conditions, but I think it is there all the same, and I am inclined to think that if this tendency develops as it seems to, he is in for a hard time.

"My own personal view is that the commission house is really an essential factor in the sale of goods to Australians, but I am not saying that that is the view of my association in Australia. Some of my people think one way, some another, according to the nature of their own business. But at any rate, in the early stages of the export career of any manufacturer, the commission house is a very valuable ally. Then, of course, there is the question of the risk taken in shipping goods to Australia. We are not different from other people. We consider we have a good standard of business morality, but that doesn't necessarily enable us to carry on profitably. Consequently, there are at times a certain number of people who are in a somewhat doubtful position, and it is rather risky to ship to them direct. This is particularly the case after a period of drought when money is scarce.

"The average American manufacturer, I think, is not so well equipped for export business as the British manufacturer, because he has not been in the business so long, and he makes mistakes. It seems to me that from all points of view, the commission house would be employed to assist him, at any rate, until he gets on his feet."

In reply to a question Mr. Bell said the operating overhead costs of a retail hardware store in Australia ran from 20 to 25 per cent. on sales.

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.

For English prices, see The Month's Cablegrams on page 308

Sydney, September 4, 1928.

Trading for August was very good both in the country districts and in the metropolitan area. Shelf lines sold readily at prices listed and demands from the country covered a wide field. The outlook for the next two months is reasonably good, added to which building is active. Galvanised sheets are selling well and stocks in the hands of merchants could be heavier in view of demand. Tinplates are well held by merchants and demand is satisfactory, although stocks are reported to be light. Manufacturers have experienced a busy month and some healthy indication is therefore formed of probable trading during the course of the next two months. Fencing wires were sold in parcels at current rates, and the demand has been improved during the past two weeks. White lead has been in short supply and parcels ex ships afloat were bought at higher rates. Whiting is short in stock and indent parcels on the water are in demand. Jute fabrics showed some local activity in the early part of the month just closed but dry conditions in certain districts interrupted a continuity of sales. It is expected, however, that the trade will come on the market again at an early date. Builders requirements sold well, and painters' materials had attention, but American quotations for turpentine and resin have fluctuated somewhat causing the manufacturers to order in smaller quantities and for shorter periods on indent. There are no variations of any moment in our list prices, and transactions are reported to be sound and placed with confidence. Suburban traders experienced a well spread demand, and cash purchases are well up to the totals of last year.

Auckland, August 17, 1928.

Hardware houses report a slight improvement in country business due no doubt to the farmer receiving a return from bonus distribution for last season's supplies of butter fat, and also the prospect of payment for the first months of the new season's supply. This is having the effect of inducing the storekeeper to place orders for general sorting up lines, as stocks carried during the winter months have been low. Country buyers are therefore exhibiting more confidence and feel inclined to operate more freely, particularly so as the general outlook for the coming season both with regard to supplies and prices is good. Town business is quiet, the want of activity in residential building being responsible to a large extent for a low turnover. Business premises in course of erection call for quantities of heavy materials such as constructional steel, cement and brick. Steel and iron prices are firm due to the fact that Continental and British manufacturers are not disposed to make reductions on prices at present quoted. A good demand has been experienced for fencing wires, but this is diminishing as the season advances. There has also been a fair demand for corrugated iron since the removal of the duty. Ingot tin is lower at 2/6 per lb, and pig lead is quoted at £31 per ton. Prices of Manila and flax ropes were reduced 5/- per cwt. from the first of the present month. Linseed oil is now quoted at 5/6 and turpentine at 5/6 per gallon with only small demand.

Christchurch, August 14, 1928.

This being Grand National Week at Christchurch, large crowds of visitors have arrived from all over the Dominion, and hotel accommodation is taxed to the utmost. Many business executives always take this opportunity of inspecting their local agencies. The winter show at the King Edward Barracks is also a big draw and is being very well patronised. The very mild winter we have just passed through indicates an early spring, and Christchurch hardware merchants are preparing their shows of suitable tools and advertising lawnmower repairs so as to prevent a rush later on. Several firms offer to call for and return a client's lawnmower at a charge of 7/6 for overhauling it thoroughly. Many nurserymen are finishing their winter orchard spraying and pruning and good

NEW ZEALAND PRICES

	Duty.	Auckland. Aug. 17	C'church Aug. 14	Dunedin. Aug. 22	Wellington Aug. 23
IRON—					
Bar—		£	£	£	£
English ..	Free	20	22/	21/	22/
Shoeing ..	"	22	23/	21/	23/
Steel ..	"	14 10/ to 20	20	22/	15/ to 22
Pig ..	"	7	10/6	10/6	9/ to 10/
Plate ..	"	20 10/	24/	25/	22/
Hoop ..	"	21/6	25/6, 37/6	30/	25/ and 35/
Sheet, Blk. to 20-g.	"	21 10/ 22 10/	24/6	24/	23/6
22 & 24 g.	"	23 10/	26/6	26/	25/6
Galv. Cor.—	2/-	26	27/6 Build'rs	27/	26/
First ..	"	25	25/-	26/	25/
Second ..	"	26	"	"	"
Local ..	"	"	"	"	"
Do., Plain	Free	28, 29/ 0/	29/6, 32/	32, 34, 36	28
24 & 26 g.	"	50%	47 1/2% off	42 1/2	45% off
Pipe—Galv.	Free	60%	50% off	50% off	50% off
Black ..	"	"	"	"	"
Wire—	"	15/6, 18/-	16/	16/	17/ to 18/
Galvd. ..	"	16/-	16/	15/	"
Black ..	"	20, 23 10/	21/-	21/	21/ to 22/
Barbed ..	"	20/6	20/	22	21
Nails ..	2 1/4/- c	20/6	"	"	22
" N.Z.	"	20/6	"	"	21
Lead—Pig	Free	31	33/-	21/	32
" Sheet	"	34, 10	36/-	34/	39
" Shot	10/	75/	75/	80/	75/
Tin—Ingot	Free	2/6	2/8	2/6	2/8
" Plates	"	27/6	40/	40/	37/6
Zinc—Sheet	"	7 1/2 lb.	9d. 1b.	8 1/2 d.	7 1/2 d
Quicksilver	"	"	6/6 1b	"	"
Cement—	"	"	"	"	"
Imported	1/- cwt.	5/5	23/6 cask	6/	5/11
Local bag	"	"	7/-	"	"
Slates ..	Free	24/-	30/-	28/	27/
P. of Paris ..	"	"	"	"	"
White Lead	6/- cwt.	54/	56/	56	58/
Best ..	"	53/	"	"	57
Second ..	"	1/8	2/-	1/7	1/8
Bist. Powder	Free	20%	"	"	"
Rope ..	"	106/	106/	111/	111/
Manila, Star	"	102/	102/	107/	107/
" O ..	"	79/ 86/	86/	88/	88/
Flax, N.Z.	Free	"	"	"	"
Co. nacks ..	"	"	"	"	"
44-in.	"	"	"	13/1 1/2	12/6
46-in.	"	"	12/9	13/0 1/2	12/9
48-in.	"	13/6	13/8	13/7 1/2	13/-
Woolpacks ..	"	"	"	"	"
Full ..	Free	5/3	5/8	4/6	5/3
Oils—					
Lins'd, raw	6d.	5/6	N.Z. 5/- Eng 5/3	5/2	5/8
Castor ..	Free	5/-	5/6	5/5	5/6
Colza ..	"	7/9	8/	8/-	7/9
Kerosene ..	"	13/9	14/9	14/6	18/9
Turpentine ..	"	5/6	5/6	5/9	6/6

sales have been reported of emulsifying oils, lime sulphur sprays and requisites. Business is very much better and to-day managers talk of takings which continue to improve with each month. One merchant stated that "the last two years have been the hardest period we have gone through, except the war slump, which was the worst. In that time we could sell the goods easier, but values dropped in some cases by one third, and the depreciation made the period the worst." People are buying a better class of goods. Farmers are finding that they have more money and are buying things that they have not been able to afford for the last two or three years. Cash sales are showing improvement and people are paying their accounts a little more promptly. Maddren Bros. Ltd. report a drop in the price of rope, Manila being reduced 5/- and N.Z. flax 2/- per cwt. Ingot tin is also down to 2/8 per lb., but all other lines are unchanged.

Dunedin, August 22, 1928.

Generally at this season of the year trade is rather slack, but most houses advise a fair average return for the month. Quite a spurt in business in ship over-hauling has occurred at Port Chalmers lately, as shown in the case of the steamer "Manuka." While the vessel was laid up there quite a large company of workmen composed of engineers, boilermakers, electricians, carpenters, joiners, painters, wood polishers, plumbers, tinsmiths, sail-makers, riggers and other workmen was engaged, enabling the vessel to resume her running in the New Zealand-Melbourne service. This work is in keeping with the general policy of the Dominion, namely to do everything possible in the country, even to the building of our locomotives. In regard to prices, but little variation in last month's record has to be noted. Plain galvanised iron has been reduced by 20/-, while nails are firm at 22/-. In the oil section turpentine has been reduced to 5/9. Corn sacks are also a little lower, 44 in. being quoted at 13/1½; 46 in., at 13/0½ and 48 in., at 13/7½.

Wellington, August 23, 1928.

Business is very satisfactory and is improving steadily now that winter is practically over. Some hardware houses report that business has kept quite fair through the winter. There is every prospect of a general increase in trade all round now. The balance of trade is fully restored, the period of depression is over, and money is quite plentiful. An increase in trade is a natural sequence, and if the coming season is good for our main products we may confidently expect a highly prosperous time. Metal prices are keeping fairly stable. Corrugated iron is £1 lower, with fair supply and moderated demand. Imports have been much lighter lately than a year ago. Wire nails are also £1 cheaper, with ample supply and brisk inquiry. Pig, bar, plate and sheet iron and steel are in satisfactory supply and values are keeping very stable. Fencing wire has been quiet through the winter, and is unaltered, with adequate stocks held. Ingot tin is easier by 2d. Lead is fairly quiet with no change, and stocks are normal. White lead is fairly easy, in sympathy with the metal and is in good supply. Oils are in fairly good supply and are keeping very steady. Cement is plentiful and unaltered, with fairly heavy demand.

Brisbane, August 30, 1928.

For the month of August, the hardware trade in Queensland shows improvement in most lines. Heavy hardware has been patchy, although business has shown an increase towards the end of the month. Prices generally are steady and stocks in good supply. Bulk lines have been better with

stocks plentiful. Pastoral supplies have received a deal of attention and a fair volume of business is reported. Fencing wires, wire netting, and barbed wire have been moving freely and the improvement is considered satisfactory. Stocks are ample and prices unchanged. Woolpacks have been in fair demand, but quantities are not up to last year's orders, owing to the ravages of the drought. Builders' ironmongery and materials have been better, but there is still room for improvement. Prices generally are steady and stocks fairly good. Tools of all description have sold freely, particularly for the country districts. Whitelead, imported, has firmed a little; stocks are scarce and sales have been fairly brisk. Linseed oils have also come in for a fair share of attention, and satisfactory business has resulted. Turpentine stocks are still on the full side, but prices are unchanged and a medium volume of sales is reported. Cement sales have been good, and as there are some large concrete jobs in course of construction, there are good prospects ahead. Prices are steady and stocks ample. Sanitary accessories, fittings and piping, etc., have sold well for the month, and stocks of certain lines are short with prices firm. Carbide has been fair, business being mostly written up for the country districts.

Adelaide, September 1, 1928.

Trade at this centre continued to improve during the month under review. The rains which broke up the record dry spell for early August brought a steady demand from country districts for many hardware lines. Fencing standards went out in good quantities and several ten-ton parcels were sold inter-house at £14 per ton, for 1½ in. x ½ in. in 4 ft. 6 in. lengths. Black and galvanised fencing wires were also in fair demand. Wire netting, however, was quiet. The demand for builders' hardware is comparatively slight as yet, although it is anticipated that an increased inquiry for these items will be experienced in the near future. Galvanised tube showed more activity than for some time, several parcels of 10,000 to 20,000 ft. assorted ½ in. to 2 in. sold at 61½ per cent. off list. Ingot tin still remains at about the same figure. Merchants appear to be holding good stocks of all lines and although not unduly heavy an increased demand would be welcome in order that stocks may be further reduced. Prices, however, have not been influenced by this to any extent.

Melbourne, September 3, 1928.

The lack of adequate rain in Victoria continues to adversely affect the Melbourne market. It curtails the demand for fencing materials and retards buying in country centres. Leading hardware houses make no apology for cutting down purchases to the lowest possible point. A reduction of prices in certain directions such as occurred in iron pipes and plain galvanised sheets has not sufficed to stimulate dealings in those lines. Sales of 10,000 feet of ½ in. and 1 in. galvanised pipe were reported at 57½ per cent. discount, but buyers were few. Galvanised fencing wires sold slowly. In lots of 10 and 5 tons prices realised were for No. 8, £15/15/-; No. 9, £16/5/- and No. 10, £16/17/6. Except for No. 6 but little black wire was handled, the price for 5 ton parcels being £18. Barbed wire found buyers in small quantities also; 12 gauge rules at £21/10/-; 13 gauge at £22/10/- and 14 gauge at £23. The total sales of wire netting were inconsiderable, no more than three miles being inquired for as a rule. For 42 x 1½ x 17 the figure was £41; 42 x 1½ x 17 was £49 and 36 x 1½ x 17 was £43/5/-. Recently there has been a fair demand for mild steel, but this fell off during August.

In lots of 10 tons round bars of this metal were selling at £15 basis for $\frac{3}{4}$ and $\frac{1}{2}$ in. Cement remains at last quotations, and the principal sales were for large construction works. A small quantity of English brands continues to arrive, and 500 casks of K.B. and S. sold on the spot at 20/-. Another similar parcel was sold to arrive at 19/6 delivered. Plaster sells but slowly, the demand being weak. The inquiry for wire nails is limited. Amongst a few dealings last month one or two may be quoted of two to five tons, assorted, at £16/10/- basis. G.C. iron, 26 G. was taken in several instances at £23/10/- per ton nett. Ingot tin found buyers at prices ranging from £222 to £225 per ton. A lot of two tons Macclesfield bluestone sold at £35. The paint and oil business, which should be making a forward move at this period of the year, remains quiet. Prices for white lead are steady. The price of Australian linseed oils is likely to be fixed at about 4/6 or 6d. less than imported brands. Previous contracts, however, have been made for considerable quantities at lower prices than this.

The Month's Cablegrams

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date	Copper Electrolytic Per Ton		Tin Standard Per Ton		Silver Standard Per Ounce	
	1927	1928	1927	1928	1927	1928
Jly 30	£ 61-61½	£ 68½-69½	£ s. d. 202 2 6	£ s. d. 214 12 6	d. 25½	d. 27½
Aug 3	62½-63½	68½-69½	207 12 6	213 6 3	25½	27½
" 9	62-62½	68½-69½	206 7 6	215 7 6	25½	27½
" 16	62½-62½	68½-69½	203 12 6	214 2 6	25½	27½
" 23	62-62½	68½-69½	209 3 9	212 12 6	25½	27½
" 30	62-62½	68½-69½	209 5 0	212 6 3	25½	26½
Sep. 4	62-62½	68½-69½	209 5 6	213 12 6	25½	26½

The stocks of tin in the United Kingdom at the end of August were 18,308 tons, the deliveries for the month 2301 tons, the quantity on spot 1492 tons, and the quantity afloat 2460 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—August 3, £21/1/3; August 9, £21/2/6; August 16, £22; August 23, £22; August 30, £22/3/9; September 4, £22/7/6.

For the month of July the imports of lead into Great Britain were 22,253 tons, including 5805 tons from Australia. The exports were 3271 tons.

Spelter.—The spot quotations for spelter, as cabled from London, have run as follows:—August 3, £24/13/9; August 9, £24/8/9; August 16, £24/13/9; August 23, £24/10/-; August 30, £24/15/-; September 4, £24/16/3.

Tallow.—Following are the statistics for August and particulars of the latest auction sales:—

Aug.	Casks	Date	Casks Offered	Casks Sold	Mutton Med., per cwt.	Beef Med., per cwt.
Imports	1069	Aug 1	NH			
Deliveries	1041	" 8	NH			
Stock	1564	" 15	574	253	39/-	39/-
		" 22	NH			
		" 29	F678	203	39/-	39/-

Victorian Hardware Club

There was a fair attendance of members at the annual meeting of the Victorian Hardware Club on August 30. The adoption of the report and balance sheet was moved and seconded by Messrs. E. A. Kearney and A. A. Myers. Members expressed satisfaction at the progress made during the year. Every department of the club showed an increase over previous figures. The retiring president, Mr. J. G. Black, was gratified, he said, at the marked improvement in the position of the club since he took office. A hearty vote of thanks was passed to Mr. Black for the great services he had rendered, and it was decided that he be presented with an illuminated certificate as a memento of his association with the institution.

In his remarks Mr. Black referred with obvious sincerity to the assistance he had received from Mr. J. Dempster, the secretary. After a close acquaintance with the work he was doing, and with a knowledge of the duties the secretary was called upon to undertake, he had formed a high opinion of his character and capacity. As retiring president he moved a vote of confidence and appreciation in that official.

Members were pleased to find that the annual loss on the club's operations was reduced from £1500 to £700, and the chairman of the Finance Committee anticipated that in the coming year this would again be reduced to no more than £200. After that, he said, it was safe to say the club would have "turned the corner."

The following officers and committee were elected unopposed for the ensuing year:—President: Mr. T. C. Harrison, M.B.E.; Vice-Presidents: Messrs. E. A. Kearney and A. A. Myers; Ex-President: Mr. J. G. Black, J.P.; Treasurer: Mr. D. Bishop; Committee: (Hardware)—Messrs. W. Atkinson, H. J. Beer, W. C. Blackmore, T. N. Chuck, L. G. Holder, R. V. Powell, R. B. Ridgeway, R. B. Shields and N. Winning; (Non-Hardware)—Messrs. C. Anton, J. W. Schafe and W. A. Taylor; Auditor: Mr. O. R. MacDonald, A.I.C.A.

The winner of the club's annual billiard tournament is Mr. F. A. Gordon (off 455), who beat Mr. E. F. Ritter (off 115) by 33. Mr. H. G. Walker was third, and Mr. J. Bewcher fourth.

The new president, Mr. Tom Curtis Harrison, came to Australia from England in 1888, two years after his birth at Bromley, in Kent. After leaving



Mr. T. C. Harrison

Wesley College, Melbourne, he entered the service of the Bank of Victoria Ltd., and remained with that institution for seven years. Then he left to commence business on his own account as an estate agent. When war broke out in 1914 he took up duty at the Broadmeadows Camp in assisting to organise the A.I.F. Garrison Institutes and Canteens. Later on he became deputy comptroller for Victoria of this department of war service. At the close of the war he was awarded the M.B.E. (member of the Order of the British Empire). Mr. Harrison married the youngest daughter of the

late Mr. J. S. Kidd and on the death of her brother, Mr. Cleve Kidd, he became secretary to J. S. Kidd & Co. Pty. Ltd., and is at present a director and secretary of that company.

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney Sept. 4	Melbourne Sept. 8	Adelaide Sept. 1	Brisbane Aug. 30		Duty	Sydney Sept. 4	Melbourne Sept. 8	Adelaide Sept. 1	Brisbane Aug. 30
Pig Iron ...	20/ 40/	£	£	£	£	Zinc—		£	£	£	£
British ...	...	...	7 5/	7 10/	...	Sheet 9 to 18g	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.
Swedish ...	...	...	...	...	...	(7 x 3 & 8 x 3)	...	4/9	7	...	5/6
Lithgow ...	7 10/	7 5/	...	...	...	Perforated	35%, 45%	32	...	54'	40/
Newcastle ...	7 10/	7 5/	7 10/	...	...	Spelter	10%, 20%	301 10/ to 37	41 to 42	...	1/9
Bar and Rod	44/ 120/	23 basis	English 21	21	22 10/ basis	" Elec.	...	1/9	1/5	...	...
Australian ...	...	...	18/6	17 10/	...	" Brazing	25%, 40%	...	...	...	...
Mild Steel ...	44/ 120/	19 basis	19/ basis	19 10	18	Bolts & Nuts—	...	75/ 59/	63/ 47/ 41/	41/ 38/	26/3 to 73/
Bar ...	...	19	18	20	19	Cuphead 3"	35%, 50%	76/ 57/	61/ 46/ 39/	41/ 36/	...
Angles ...	...	22	18	21	20	" 4"	...	70/ 54/	56/ 43/ 37/	40/ 34/	...
Tees ...	...	20 basis	19 basis	19/	24/ basis	" 6"	...	65/ 49/	52/ 39/ 35/	37/ 33/	...
Hoops ...	F., 10%	29/9 basis	32	33/	32 10/	" 9 1/2 to 12"	...	61/ 47/	49/ 38/ 34/	36/ 31/	...
Black ...	...	25	24 10/	25	200-gal.	Tanks, 400-gal.	Free	59/ 45/	47/ 36/ 32/	33/ 30/	...
Galv. Corr. 24g.	20/ 60/	26 10/	26	26/10	25 5/	" 200-gal.	...	3	2 15/	5 10 0	5 3 10 0
Orb 26 g	...	...	...	...	28 15/	Tubing—	F., 10%	55 off list	55% off	58% off	List 45% off
Phoenix Cr.	...	26	26 10/	27 5/	28 15/	Black, up to 3"	...	...	60% off	35 off	.. 5% on
Galv. Plain 24g.	20/ 60/	30/1	27	28	27	3 1/2 & up	27 1/2	50	56% off	46% off	.. 40% off
Queen's Hd.	...	27	27	28	27	Galv. up to 3"	27 1/2	40	tst. List	20 off	Less 5% off
Phoenix Cr.	...	26 5/	26 10/	27 1/5	26 10/	3 1/2 & up	27 1/2	...	37% off	37% off	.. 5% on
Fleur-de-lis	...	...	...	40	...	Wr ght boil.	...	...	5% off	20 off	.. 25% off
Other	...	...	...	...	...	Explosives—	F., 5%	...	...	...	List
Sheet	F., 125/	26 basis	25 basis	25/15	26	Hall's C.C.	10%	1/-	10d.	1/-	5/
Black	...	B26, G34 5/	26 10/	19	19	Curtis	...	10d.	10d.	11 1/2	1/1
Baldwins	...	17/- basis	15 basis	15	15 10/	Chilworth's	...	10d.	10d.	...	1/1
Plate	F., 120/	19/6	21	19	20/-	Sporting	15%, 25%	3/6, 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/
Steel	...	...	...	...	...	Diam. S'less	...	10/	8/ to 8/6	8/8 to 8/6	5/
Girder	...	...	...	...	...	Amberite	...	8/6	7/ to 7/6	6/9 to 7/6	75/
Fencing Wire	F., 120/	18 5/	18 5/	...	...	Blast'g Gel.	F. 5%	72/6	74/6	74/6	78/6
American 8	...	19 5/	19 5/	...	...	Gel. Dyna.	...	65/	66/	66/	71/-
Austra'n 8 Bl.	10	14 2/6	14	15 10/	14/12/9	Gelignite	...	56/ to 60/	56/ to 59/3	54/6 to 58/6	62/ to 66/
Galv. 10	...	14 18/6	15	16	16/10/6	Dynamite	...	41/ to 51	51/ to 57/	46/6 to 51/6	58/ to 102/
Galv. 12	...	15 18/	16 5/	18	16/8/	Detonators	15%, 25%	55/	55 to 60/	60/ to 85/	90/
Galv. 14	...	16 9/	17	19	16/19/	Shot—Chilled	5/ 6/	63/6	61	71/	...
Galv. 18	...	18 12/6	18 10/	20/ 5	19/2/	Australian	...	61/	56	68/	...
Barbed Wire,	68/ 180/	24	...	...	...	Cyanide Pot.	Free	1/4	1/6	5/8	1/4
Amern. 12-g.	...	25 10/	22 10/	22 10/	12—24 8/9	Quicksilver	Free	7/6	5/	5/8	8/6
Austn. 12-g.	...	24 10/	23 10/	23 10/	12 1/2—25 10/	Sash Weights	35%, 45%	15/	18/	16/6	18/6
Austn. 13-g.	...	26	24 10/	25	14—25 19/9	Sheep Shears	F., 10%	60/	60/	60/	60
Austn. 14-g.	...	...	...	...	...	Cement—Imp't'd	20%, 30%	21/ cask	21/	21/-	21/ cask
Wire Netting	F., 200/	£48/15/0	48/10/0	...	43/ 5/9	Aust. (bags)	...	37/6 K.W.	35/	47/6	6/6 bag
42 x 13 x 17	per. ton	£39/5/3	39/10/0	38	34/ 5/9	Plaster, Imp.	1/6, 2/c	Pixie 35/-	8/	9/3	50/ cask
42 x 13 x 18	...	£41/16/0	41/15/0	45	41/16/	Slates (20 x 10)	30%, 40%	...	...	...	18/ bag
42 x 13 x 17	...	£33/2/0	34/ 0/0	38 10/	33/ 2/	White Lead—	8/ 10/ or	...	...	...	...
36 x 13 x 17	...	£41/16/0	42/ 0/0	...	41/16/	Imported	25%, 30%	63/6	63/6	64/-	62/
36 x 13 x 18	...	£33/10/6	36/15/0	...	33/10/	Australian	...	58/	60/	60/	59/6
36 x 13 x 17	...	£35/13/0	36/ 0/0	...	35/13/	Zinc White	20%, 30%	...	70 to 100	...	72/ to 80/
36 x 13 x 18	...	£29/10/0	29/15/0	20	28/ 9/3	Oils—	...	...	...	...	Colonial 56/
Nails—	...	...	...	...	...	Linseed (raw)	9d., 1	...	5/4	...	...
Horshoe ...	12/ 15/	Less 10%	to 1/lb.	1/ less 10%	List Price	Imported	R5/	C4/6 D5/6	5/6	Drs., 5/9	5/
Wire ...	5/6, 8/	28/6 basis	18/ to 20/	24/6 to 35/	26/- basis	Castor—	6d., 8d.	...	6/-	...	4/7
Roofing—	or 25/ 95%	65/- cwt	65/cwt., 9/6	...	...	China	9d., 1/	...	6/3	6/9	6/10
Even-den	5/6, 8/	...	...	...	...	Cotton seed	2s., 2/6	...	8/	...	...
Lead-head	...	...	...	...	...	Kero.—C.O.R.	6d., 8d.	...	8/6 to 10/	...	10/
Block Tin ...	Free	£215/ 0	226	230/	3/	Laurel	Free	18/	13/6 to 14/6	13/	12/8
Tin Plates,	F., 10%	112's 60/-	62/6	112's 52/6	27/	Light of Age	...	13/	13/6 to 14/6	13/	12/6
28 x 20—	...	35/-	70/	...	42.	Pennant	...	13/	13/6 to 14/6	13/	12/6
I.C. Coke ...	...	...	...	...	...	Turpentine	F., 1d.	4/9	4/9	4/10	4/7 1/2
I.X. Coke ...	...	...	...	...	...	Substitutes	1d., 1d.	3/	18/ per case	2/8	2/6
Pig Lead ...	Free	25/6	28	29	37/10	Shellac	6d., 9d.	3/6	2/6	3/4	3/-
Sheet Lead ...	10%, 20%	40/	40	43/6	49/	Whiting—	...	...	...	...	...
Dampcourse	...	48" 6/6	48	...	...	English	...	8/-	8/	9 10/	£10 ton lots
2 lb.	...	48" 9/9	47	...	...	Colonial	...	6/3	6/	5/	8/8
3 lb.	...	...	...	...	...	Resin, G grade	Free	32/6	32/-	28/	24/6
Lead Pipe—	10%, 20%	45/	47 10/	46 5/	58/6	Carbide—	80/ 150/	32/6	27/ 6	29 5/	29 7/6
1/2 to 2in. coils	...	47/	50	48 15/	80/	" I X L "	...	34/	32/10	33 10/	33
Lengths to 5'	...	50/	51	48 10/	57/	Scandinavian	...	...	...	...	...
Compo. 1/2" & up	...	...	...	...	...	Canadian	...	...	...	...	...
Copper—	...	...	...	...	...	Japanese	100/ 200/	...	...	...	...
Ingots	...	...	70	78/	10d.	Bluestone—	...	...	...	...	...
Sheet	25%, 40%	1/9	1/7	1/8	1/8	Macclesfield	...	37/6	37/6	37/6	42/
Brass	...	...	...	...	...	Australian	36(1 cwt c/s)	...	...	...	...
Sheet	25%, 40%	1/3	1/2 to 1/6	1/6	1/6	Japanese	...	...	...	...	...
	...	...	...	...	...	Stock Tar, 42 g.	25%, 35%	...	1/5	60/-	...
	...	...	...	...	...	Woolpacks—	Free	...	6/	5/9	...
	...	...	...	...	...	42 x 11 1/2	...	4/5	4/7	4/9	4/8
	...	...	...	...	...	54 x 11 1/2	...	...	...	...	...
	...	...	...	...	...	Cornacks—	Free	...	...	...	...
	...	...	...	...	...	23 lbs. (Oats)	...	10/9	11/	11/6	11/9
	...	...	...	...	...	2 1/2 lbs	Free	9/6	9/6	10/-	10/7
	...	...	...	...	...	Branbags	...	...	...	...	...

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

The Simplex Brush Co., brush manufacturers, 61 Brandling-street, Alexandria, announce that Sydney W. McNab has become the owner.

Jolley & Brown, engineers and brassfinishers, 16 Trafalgar-street, Annandale, announce that W. E. Brown has retired from the firm.

A. Oppenheimer & Co., manufacturers' representatives, removed on September 1 to Warwick Buildings, 15 Hamilton-street, Sydney, where they have better facilities for the display of goods on behalf of their various principals.

Firms Registered

A. Dodimead, hardware dealer, 214 Bridge-road, Drummoyne; proprietor: George A. Dodimead.

L. G. Roth & Co., general storekeepers, Tumbarumba; proprietors: Linden G. Roth, Ernest S. Bax and Allan E. Bax.

The Sefton Hardware & Carrying Co., hardware dealers, builders' suppliers and carriers, Wellington-road, Sefton; proprietors: Frederick A. Crombie.

Company News

Standard Steel Products Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To carry on the business of iron and steel manufacturers, etc. Subscribers: E. Robinson, J. M. Swan, R. C. Cooney, M. Hanly, Josephine M. Lang, Ethel M. Walker and Harold H. Walker. Reg. office: Sydney.

Fergusons Ltd. have been registered with a capital of £5000 in £1 shares. Objects: To carry on the business of grocers and hardware merchants, etc. Subscribers: Robert J. Hansford, Norfolk A. Elliott, Arthur S. Rock, Elva M. Radford, Stanley W. Menzies, Geo. Lewis and Cecil R. Hall. Reg. office: Sydney.

The Sheffield Manufacturing & Plating Co. Ltd., made a net profit of £3117 for the year to June 30 last, being somewhat more than for the previous twelve months. Dividends of 8 per cent. on ordinary and 7½ per cent. on cumulative preference shares absorb £2360 and the sum carried forward is increased to £1917.

Darlington Engineering Co. Ltd. have been registered with a capital of £5000 in £1 shares. Objects: To acquire the business of manufacturers now carried on under the name of The Darlington Engineering Co. Subscribers: F. Jackson, S. E. Speare, B. Middlebrook, G. Webb, M. Middlebrook, Alan F. Weaver and G. Parker. Reg. office: Sydney.

S. Hoffnung & Co. Ltd., for the year ended March 31 last, report a net profit of £100,674. Dividends of 7½ per cent. on preference and 15 per cent. on ordinary shares with a bonus of 1/- per share on the latter (equal to 5 per cent.) account for £78,750. A sum of £11,000 is added to reserves and another of £10,000 to building account, leaving £51,291 to be carried forward. The paid up capital of the company is £675,000 and the general reserves stand at £250,000.

New Zealand

Company News

Heffernan & Co. Ltd. have been registered with a capital of £4000 in £1 shares. Objects: Iron-founders, mechanical engineers and incidental. Subscribers: M. B. Heffernan and M. M. Heffernan.

Loach & Price Ltd. have been registered with a capital of £4000 in £1 shares. Objects: To carry on the business of plumbers, tinsmiths, electricians, etc., in all and every branch. Subscribers: P. E. Loach and H. J. Price.

Mason, Struthers & Co. Ltd., of Christchurch, in their twenty-fifth annual report, state that owing to the depression which had existed throughout the past year, especially in the building trade, and to the constant reduction in the value of stocks, evidenced by the lower quotations of English and Continental manufacturers, the directors, in continuing their conservative policy, consider it prudent to pay on this occasion a dividend of 6 per cent. on the paid up capital of the company, free of income tax. This will absorb £6600, leaving a balance of £11,423 to carry forward.

Queensland

Stacey Bros., sheet metal workers, etc., Fish-lane, South Brisbane, have been registered under the Firms' Act; proprietors: Samuel A. Stacey and Frederick E. Stacey.

Company News

Ceramic Potteries Ltd. have been registered with a capital of £25,000 in £1 shares. Objects: To carry on the business of manufacturers and vendors of high class china, porcelain, semi-porcelain, soft china, earthenware and highest classes of ceramic ware of all kinds, etc. Subscribers: Leslie S. Baker, Arthur W. Button, Gladys Clarkson, Raymond M. McDougall, George H. Cowdry, Adolphus McDonald and Alfred E. Jones. Reg. office: Queensland Deposit Bank Chambers, Albert-street, Brisbane.

Dux Electric Heaters (Queensland) Ltd., have been registered with a capital of £60,000 in £1 shares. Objects: To purchase or otherwise acquire from Dux Electric Heaters (World Rights) Ltd., an exclusive license for the territory of the State of Queensland to manufacture, use and vend electrical water heating devices and apparatus, etc. Subscribers: Alexander Ralston, Herwald G. Kirkpatrick, Ernest C. Steere, Edgar S. Bonham, Eric D. Johnson, Edward H. Turner and Charles E. Carr. Reg. office: Burnett-lane, Brisbane.

Smellie & Co. (Cairns) Ltd. have been registered with a capital of £15,000 in £1 shares. Objects: To acquire and take over as a going concern the branch business now carried on by Smellie & Co. Ltd., at Cairns, and to carry on business as general hardware, iron, metal, machinery, paint, oil and colour merchants, importers, exporters and general dealers in machinery, implements, motor and general accessories and to carry on any other business of a similar nature. Subscribers: Albert N. Boniface, James Williamson, William Fraser, Alfred H. Power, Kenneth E. Glasheen, Evan E. Jacob and Guion M. O. Jones. Reg. office: Cairns.

Walkers Ltd., of Maryborough, made a net profit of £15,301 for the year ended June 30 last. Of this £12,419 is distributed in dividend at the rate of 10 per cent. and the remainder is carried forward. The authorised capital of the company is £250,000 and the paid-up capital £124,193. Regret is expressed in the annual report at the death of Mr. A. J. Goldsmith, one of the directors, who was the last member of the partnership whose business was taken over by the company. Contracts were recently secured for ten locomotives "C. 17" class for the Queensland railways and three others "Q" class for the Tasmanian railways. The report is

signed by Mr. W. H. Williams, the chairman, and Mr. G. A. M. Harrapp, the secretary.

South Australia

S. L. Prince & Co., brush manufacturers, Mills-street, Adelaide, announce that Thomas Riddock has retired from the firm.

James George Neilson Wauchope, public accountant, Hall-street, Semaphore, has been appointed official liquidator of May Bros. Ltd., jointly with Geoffrey Valentine Shaw.

Firms Registered

Elliott's Transport, carriers and hardware merchants, 28 Azalea-street, Prospect, and Port Broughton; proprietors: Laurence Elliott.

S. Davie & Co., electro platers, etc., Ackland-street, Adelaide; proprietors: Robert Charles Waters, Sidney Davie and Albert Paulson.

Tasmania

Goliath Portland Cement Co. Ltd. have been registered with a capital of £600,000 in £1 shares. Reg. office: Railton.

Victoria

Smith & Jones (Charles William Smith and Henry Jones), sheet metal workers, 466 Brunswick-street, North Fitzroy, have dissolved partnership by mutual consent. C. W. Smith will carry on the business alone, and will receive and pay all debts.

Company News

General Machinery Pty. Ltd. have been registered with a capital of £25,000 in £1 shares. Subscribers: Max Wylie Kroger and Stephen Robert Bumpstead. Reg. office: Creswick-road, Ballarat.

Monarch Foundry Pty. Ltd., ironfounders, engineers, brassfounders, etc., have been registered with a capital of £50,000 in £1 shares. Subscribers: William Patrick, Joseph Patrick and George Patrick. Reg. office: Hope-street, Brunswick.

D. C. Mills & Co. Pty. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business of general storekeepers carried on under the style of D. C. Mills & Co. Subscribers: David Clark Mills and John Henry Teather. Reg. office: Princes Highway, Morwell.

Cunningham & Smith Pty. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business of builder, timber merchant and ironmonger carried on by John Currie Cunningham. Subscribers: John Currie Cunningham and Stanley William Cunningham. Reg. office: Bridge-street, Korumburra.

Forman & Co. Ltd., engineers, boiler makers, shipsmiths, etc., have been registered with a capital of £100,000 in £1 shares. Objects: To acquire as a going concern the business carried on by Forman & Co. Pty. Ltd. Subscribers: Harry Arthur Crout, Joseph Aloysius Costigan, Edith Marion Evers, Frank Warhurst and Robert John Green. Reg. office: 62 Yarra Bank-road, South Melbourne.

Johns & Waygood Ltd. made a net profit of £52,866 for the past year, permitting a distribution by way of dividend and bonus equal to 20 per cent. plus an addition of £16,200 to reserves. At the annual general meeting the acting chairman warned shareholders that if the present dull conditions prevailed an equal amount of business could not be expected during the current year. Mr. A. E. Johns, the managing director, was at present in England, where he was looking into matters of interest to the company.

D. & W. Chandler Ltd., incorporated in 1922 with a capital of £250,000 in 100,000 cumulative preference and 150,000 ordinary shares of £1 each, pro-

pose to issue 22,500 additional preference shares. This is called for by the expansion of the business and the recent acquisition of 16,000 out of 16,300 £1 shares in W. Hart & Sons Pty. Ltd., of Launceston, Tasmania. Mr. Justice Mann, before whom the matter came in the Practice Court, on August 30, made an order accordingly and gave directions for convening meetings of preference and ordinary shareholders.

Western Australia

Perry Engineering Co., of Adelaide, have opened a branch business in Basement, Surrey Chambers, Perth.

Dowerin Trading Co., general storekeepers, Cow-cowing-road, Dowerin, announce that Millicent Alithea Wright has retired from the firm. Edward Henry Wright is the continuing member.

Firms Registered

Pike & Baber, general storekeepers, The Stores, Jingalup; proprietors: Charles Richard Pike and Arthur George Baber.

L. S. and F. Bingham, general storekeepers and commission agents, Coorow and Waddy Forest, Midland Railway; proprietors: Lilian Sarah Bingham and Fred. Bingham.

Agents and Agencies

Gun Manufacturers of Birmingham, a well-known and long-established firm, are on the look-out for a reputable firm in Australia to act as their agents. Lists and other particulars are with a gentleman in Melbourne (43/232) but inquiries may be sent to the editor of this journal, who will place them in the right hands without delay.

Whitelaw & Wood Pty. Ltd., of 312 Flinders-street, Melbourne, represent the undermentioned manufacturers:—

Cunliffe & Ward, London (wallpapers).

Watson Foster Co. Ltd., Montreal, Canada (wallpapers).

Tormo Co., London (radio apparatus).

Ashton Saws, Sheffield (hand saws).

Bakewell Bros. Ltd., Hanley, Stoke-on-Trent (earthenware).

Travellers

In Victoria

Mr. P. D. Edwards, from Mr. Ross Duggan, of Castlereagh-street, Sydney, will be in Melbourne, from September 3 to 8 and again from 23 to 29. Between these dates he will be in Adelaide.

In Queensland

Mr. J. Baumber, managing representative for Sanderson Bros. & Newbould Ltd., steel, saw and file manufacturers, Sheffield, England, will visit Brisbane on September 15.

In New Zealand

Mr. Ross Duggan is about to visit New Zealand, arriving there on September 14 and leaving again on October 27.

To and From Europe

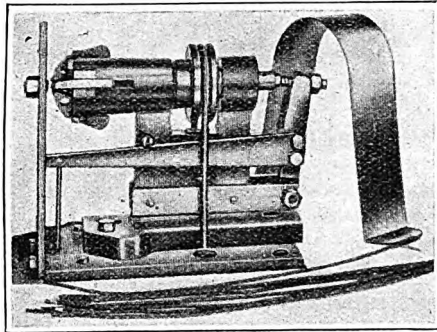
Mr. P. C. J. Glass, a director of the Barnet Glass Rubber Co. Ltd., returned to Melbourne on August 18, from a visit to Great Britain and the Continent. Mrs. Glass, who accompanied him on the tour, is still in England where they have a son.

Mr. C. A. D. Lomas of Sanderson Bros. & Newbould Ltd., Sheffield, England, steel, saw and file manufacturers, reached Sydney from New Zealand on August 7. He will work in conjunction with the Australian representative, Mr. J. Baumber, for a few months prior to returning to England.

Machinery

Wire Stripper

Insulation may be stripped from all sizes of wire without cutting into the strand by means of a cen-



trifugal wire-stripper invented by C. B. Mahan, of 162 Longview Terrace, Rochester, N.Y., U.S.A.

The centrifugal action of this machine closes the jaws of the machine to the gauge which has been set for each individual size of wire. The jaws close under a definite pressure which is not sufficient to cut the wire, and present three small circular-cutting discs to the work. These discs may be turned slightly to present new cutting surfaces when desired, but it is claimed that 115,000 pieces have been stripped without it being necessary to change.

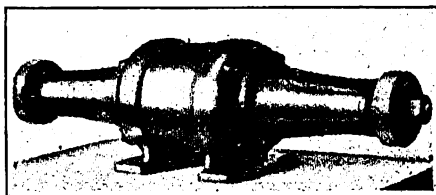
Grinding Wheels.

A line of "Aloxite" grinding wheels for tool room work is being marketed by the Carborundum Co., of Niagara Falls, N.Y., U.S.A.

These wheels are made of an aluminous abrasive and are claimed to have the proper sharpness and degree of hardness or temper, combined with proper bonding to make them fast and free cutting on tool-room precision work. The wheels are suitable for both light and heavy cuts, and are claimed to work without creating undue heat. They are standardised in various grades and grits.

High-Speed Grinder

High-frequency current is now being used in many plants to drive grinding machines at a very high speed. Because of this trend, a high-speed grinder has been introduced by Forbes & Myers, 172 Union-street, Worcester, Mass, U.S.A.



This machine is of the double-ended type and carries a 4 in. wheel mounted directly on the spindle. It is driven by a $\frac{3}{4}$ h.p. motor running in four ball bearings at a speed of 5400 r.p.m. It operates from a 180 cycle source.

Other grinders of the same type are offered to drive wheels from 1 to 6 in. in diam. at speeds of 3600 to 12,000 r.p.m. The motor used is similar to other induction motors.

Ball-bearing Lift Truck.

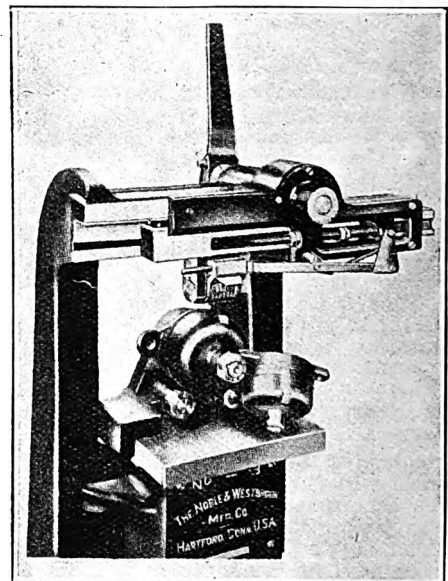
Ball bearings on the wheels are features of the "Red Streak" single-side lift trucks now being marketed by the Stuebing, Cowan Co., of Cincinnati, Ohio, U.S.A.

Eight heavy-duty ball-bearings are used, two to each wheel. The truck will handle loads up to 5000 lb. Because of the ball-bearings much less effort is required to start the truck and to keep it moving when loaded up.

Marking Machine

The Noble & Westbrook Manufacturing Co., of Hartford, Conn., U.S.A., have placed on the market a special hand-operated marking machine, known as the No. 3. It is intended for stamping serial numbers on curved surfaces.

The machine, which is a combination of devices produced by this company, has a numbering head which is fitted with a special shank to adapt it for use in a reciprocating attachment. The auto-



matic tripping device is attached to the head and changes the number after each stroke.

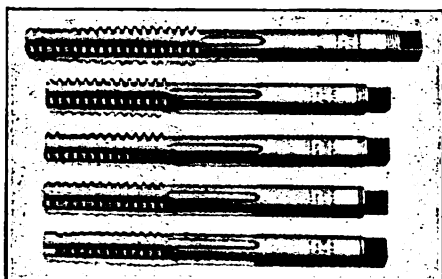
The marking is accomplished by the forward stroke of the numbering head over the part to be marked, this part revolving on its own centre on roller bearings. The wheels in the numbering head can also be operated independently by disengaging the tripping device in case duplicate numbering is to be done. These equipments can be furnished for marking many different sizes and styles of parts.

Heavy Duty Ratchet Brace.

The Witney Metal Tool Co., of Rochford, Ill., U.S.A., have recently placed on the market a light, rigid ratchet brace. In order to minimise the weight, the frame is made of seamless tubing, while the ratchet dogs and heads are of hardened alloy steel. The ratchet head housing is welded to the tubing to make it secure; the breast plate and handle grip are ball-bearing mounted.

"Acme" and Square Thread Ground Taps.

John Bath & Co. Inc., of Worcester, Mass., U.S.A., have developed a line of ground taps with both square and "Acme" threads. It is claimed that by their use it is practicable to cut accurate threads in drilled or bored work without preliminary lathe work. The taps are used in the same manner as ordinary hand taps.



The illustration shows a set of taps to cut "Acme" threads. Study of the leading tap will show that the teeth are rectangular in shape, and that alternate teeth are made with small recessed notches and projections at their outer ends. The teeth grow longer but not wider toward the shank of the tap, the width of the tooth at the top always remaining less than that of the "Acme" form at a corresponding height.

The second tap continues the work of the first one. The teeth of the third tap begin to assume the angular shape of the "Acme" thread toward their crests, but, owing to the fact that the individual teeth are now following previously cut grooves of an entirely different shape, the cut is broken up, thus lessening the strain on the tool and bringing out the material in the form of several narrow, curled shavings instead of one wide chip. The principle involved is similar to that where two parting tools are used simultaneously in a cutting-off machine, one tool being narrower and set to cut slightly in advance of its wider mate, so that the metal is removed from the kerf in three chips.

The teeth of the fourth tap are again rectangular in shape towards the crest, but merge into the "Acme" form at the root. The fifth tap is of full and true "Acme" form, tapering towards the entering end and terminating in a pilot portion, the threads of which fit and follow the threads cut by the preceding taps. The pilot portion does not remove any metal, but merely acts as a guide and lead for the cutting portion of the tap.

The square-thread taps are designed on the same principles.

All taps are form-ground from solid metal after the blanks have been hardened and tempered, so as to eliminate errors due to distortion in those operations. Both square and "Acme" threads can be furnished in any commercial size and pitch between $\frac{1}{8}$ and, in the case of "Acme" threads, 6 in. in diameter.

All-Metal Silent Gears.

A line of all-metal silent gears has been developed by the Flexible Engineering Corporation, of 10 East 43rd-street, New York, U.S.A. These gears, known as "Double D," are built up of many thin pieces of sheet steel coated with graphite and subjected to high pressure. The noise is broken up and deadened by this construction, and special attention to riveting and spot welding prevents delamination. No soled shrouds are used. On account of the special construction, however, care must be taken in cutting the gears according to the instructions furnished.

The gears are intended for use wherever noise is objectionable, and especially where strenuous service is required of them. They operate silently in mesh

with each other, or with metal gears of ordinary construction. The finished gear resembles a ground steel gear in appearance. In service, these gears contract a smooth, glass-like surface, due to the graphite impregnated in the teeth. The gears are self-lubricating.

"Double-O" all-metal gears are supplied principally as gear blanks. These blanks are finished to the required face and the approximate diameter, but they are not bored nor key-seated. Because of their construction, the blanks cannot be finished later to any other face without ruining them.

Hand Welding Shields and Helmets.

Extreme lightness of weight, proper ventilation, and the absolute exclusion of all outside light are features of the Model "O" welding hand-shield introduced by the Chicago Eye Shield Co., of 2300 Warren-avenue, Chicago, Ill., U.S.A.

A feature of the construction is a flange which fits up under the chin, thus assuring the shield being held in the correct position at all times. The shield is made throughout of a high-strength specially-vulcanised fibre.

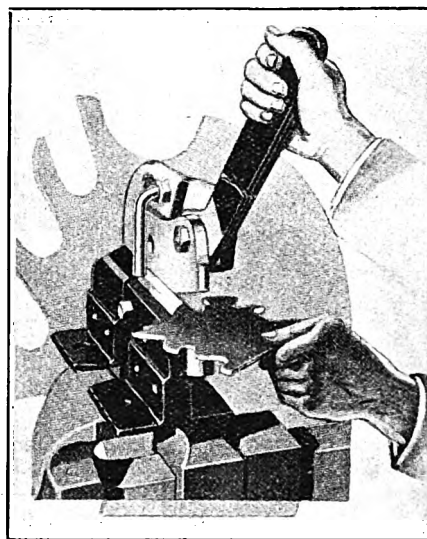
This firm are also manufacturing a helmet known as the Model "O.O." It is designed to be strapped to the head, but it can be raised or lowered with ease. The inside construction is such as to allow the shield to be raised or lowered without any friction on the operator's head. The helmet will stay in either position.

Both types of shields employ "Essentialite" lenses, which cut out the ultra-violet and infra-red rays.

Hand Shear and Nibbler

A variety of templates may be quickly and easily cut by hand by means of the "Handnib" shear and nibbler, a device recently marketed by the National Machine Tool Co., of Racine, Wis., U.S.A.

Very little filing is required after cutting. A concave cutting knife shears along curved lines, while a semi-circular punch cuts out the difficult corners. The device does not require mounting, as it can be held quite easily in a vice.



The shear blades are of tool steel, and may be removed easily for sharpening. The length of the blade is $4\frac{1}{2}$ in., and has a capacity of shearing $\frac{3}{4}$ in. stock, flat and $5/16$ in. round. The clamping device consists of a taper latch which will adjust itself automatically to any vice, but which will swing upward out of the way when it is desired.

Publications Received

Blackman Fans

A folder received from the Blackman Export Co. Ltd., of 374 Euston-road, London, N.W.1., describes their type M.P. fans, which are strongly made to withstand rough usage and may be had in different sizes and specifications.

Morris Pulley-Blocks

These products of "supreme craftsmanship" are fully described in "Book 161," a sectional publication issued by Herbert Morris Ltd., of Loughborough, England. Spur-gear pulley-blocks of this firm's manufacture are used for different purposes the world over, and typical uses indoor and outdoor are illustrated in the little volume now before us. Tributes from various users are also reproduced.

Noyes Bros. (Melbourne) Pty. Ltd., of that city, with branches in Adelaide and Hobart, are the agents.

The Mother State.

"The Official Year-Book of New South Wales" for 1926-27 is of the form and on the lines of previous issues. Compiled by Mr. T. Waites, the Government Statistician, it runs to over 830 pages 9½ x 6 and carries maps and graphs to illustrate and enforce the printed matter. Previously published in seven different parts as the information became available, the full volume is rounded off by a detailed index to the whole as well as a preface from the pen of the compiler. Those who desire more detailed information regarding the life of the State are referred to the "Statistical Register of New South Wales," another annual volume also issued from the Bureau of Statistics in Sydney.

Household Rubbers

From Redfern's Rubber Works Ltd., of Hyde, Cheshire, England, we have received a folder devoted to their household rubbers. Shown in colours, these include mats for the floor and table, cistern pulls, bath and basin plugs, teapot stands, soap trays and various other lines. The table mats are supplied in boxes of ten, four of different size being oval and six of one size round, but the whole set in the one colour. From April 1 last mats measuring 28 x 15 were reduced from 12/9 to 10/9, and some of the other lines correspondingly. "Neatest, strongest, last the longest" gathers up the company's estimate of these household articles.

With works at Hyde, in Cheshire, the issuing company have branches in London, Bristol and Leeds.

Cars and Crossings.

The National Safety Council of Australia, 94 Queen-street, Melbourne, C.1., are associated with the Victorian Railways Department in the issue of a folder addressed specially to motorists. To develop a "safety conscience" in the community is the main object of the association and ample evidence of the need for such an organ or service is offered.

"Checks, taken some months ago by experienced men, at two important crossings—one on the Geelong-road and the other on the 'down' side of Dandenong—disclosed the alarming fact that more than half the motorists crossing the line at those points failed to take full precautions against the danger that always lurks where road and rail meet. Of 1205 checked, 515 failed even to reduce speed."

Commercial Wellington.

Trade affairs in the New Zealand capital during the year 1927 are reviewed in the sixty-fourth annual report of the Wellington Chamber of Com-

merce, a copy of which has come into our hands. In addition to the report of the council for the year under review, the little volume contains a report of the annual meeting as held on April 17 last, a commercial and professional directory, and a good deal of statistical and other information pertaining to Wellington or the whole of New Zealand. Maps of both islands are given, together with pictures of different places or scenes.

Mr. Andrew Fletcher presides over a council of 12 elected and 16 representative members, and the secretary of the Chamber is Mr. H. Snowdon Fairchild. The offices are at "The Dominion" Building, Wakefield-street, Wellington.

Australian Engineering Standards

A further sheaf of tentative standard specifications is to hand from the Australian Commonwealth Standards Association, eleven little volumes in all, to be exact. These cover copper tubes (suitable for screwed connections and compression joints or brazed joints and pressures up to 200 lb. per sq. in.); benzol and toluol; special industrial alcohol (methylated spirits for special manufacture) and butyl alcohol; ethyl acetate, butyl acetate and amyl acetate; acetone, methyl acetone and methyl ethyl ketone; orange shellac; grass tree resin; instrument transformers; insulated annealed copper conductors for electric power and light, including voltage tests; vulcanised fibre for electrical purposes; and busbars and connections constructed of bare copper or aluminium.

As stated above, these are tentative or provisional only, and suggestions from those interested in any one of the subjects will be welcomed by the association, whose headquarters are at Macleay House, 16 College-street, Sydney.

Taps and Dies

In a booklet entitled "The Choice of Experience," Lehmann, Archer & Co. Ltd., of 5 Farringdon-road, London, E.C., tell how the first B.A. (British Association) tap was manufactured by the late Mr. T. Lehmann, the founder of their business. That was in 1885, at which time the only standard thread known in England was the Whitworth, originated by the late Sir Joseph Whitworth, subsequently associated with Lord Armstrong in the business of Armstrong, Whitworth & Co. Ltd. But the Whitworth thread ran from 1/16 in. upwards, and when a smaller thread was called for by scientific instrument makers a committee of the British Association approached Mr. Lehmann, who had been manager of a large telegraph instrument factory. Inventing the necessary lathes and other machinery, he produced the first B.A. taps and dies in a range from No. 0 to No. 16, the sizes then considered most suitable for the British Islands. Two years later these standards were in use by the General Post Office, which has continued to use them ever since.

Although the business commenced with the origination of the B.A. standard screw thread it was soon extended to other standards, and to-day the company produce stocks and dies in Whitworth, B.S.F., Metric, Iron Gas, Brass Gas, C.E.I., A.S.M.E., S.A.E., U.S.S., and other threads. Mr. S. P. Lehmann, who joined his father many years ago, is now in charge of the works at Fairlop (Ilford) in Essex, while Mr. F. R. Archer has the commercial management at headquarters in Farringdon-road, London. These two gentlemen are the directors of the company, which was registered in 1916 to succeed Lehmann Bros.

The Australasian agent, Mr. C. J. Thomas, of 185 William-street, Melbourne, C.1., holds a wide range of samples of the company's products. Through him any interested firm may obtain a copy of the publication under notice or of the company's regular catalogue, running to 200 pages.

Sporting Goods of All Kinds

Buyers' Notes for Retail Dealers

Sydney

B. J. Ball Ltd., of 418 Kent-street, Sydney (and elsewhere), are manufacturers of nets for use in all kinds of field games. Certain of these are made by a patented process which they own. Instead of being merely dipped, the specially selected cord used in making these nets is steam-tarred, the tar thus penetrating every fibre and ensuring longer life. With first-quality canvas top band and flexible steel head-line, additional strength is secured. Skipping ropes, badminton nets, basket ball nets and golf netting, are also manufactured, but not by the special process already described.

"Cyclit" is the name given to a new game of deck tennis for which the firm hold the patent rights. The full set consists of a net, posts, guys, pegs and an improved unbreakable ring. The game can be played in or out of doors and the ground level or otherwise can be grassed, asphalted or gravelled. The court is laid out like a lawn tennis court, and the game is played in the same way, except that instead of a ball and racquet a patented rubber ring is used.

"Lowe's Automatic Caddy," for which the firm hold the agency, consists of a tripod and one leg, which goes through the bottom of the bag. Immediately the bag is grounded, the other two legs are operated, the bag standing up with open mouth and the clubs being displayed within easy reach. When the bag is lifted the legs are snapped against the bag out of the way, and the mouth closes automatically.

Lowe's rain-resisting white for tennis courts is supplied in powder form packed in neat containers sufficient when mixed with half or a gallon of cold water to mark a court. Lowe's tennis winders are also stocked.

Brandt Bros. Ltd., of 236 Pitt-street, Sydney, specialise in lighting devices for night tennis. Powerful electric lights are available, but the firm favours their own acetylene gas lighting systems which they say gives the nearest approach to daylight. For lighting sports grounds the "Bandsman's" torch is recommended.

Briscoe & Co. Ltd., of 383-85 Clarence-street, Sydney, report a good demand for the "Alexander" patent tennis racquets, made in Tasmania. These embody several new principles for which patents have been obtained. Instead of being made in one piece, the frame is composed of six strips, a departure that not only makes for greater strength and lasting properties, but gives greater hitting power and there is no danger of the handle warping. Whereas the one piece frame must be allowed a year or so to season after being steamed and bent, the new style can be made in a fortnight and the strips can be bent in a day. A guarantee of six months is given with the frame and three months with the gut.

The firm make a special feature of sporting goods, and all the well known makes of racquets, balls, nets and service sets are carried. Golf clubs from the best makers are to be had, mention being made of those by Cochrane in three qualities, stainless, special and first quality. A feature is made of the Lawrence autographed sticks. Large

stocks of cricket material have been made available to meet the coming season's demand, bats of varying quality by Stuart-Surridge, Gunn & Moore, and Clapshaw & Cleave being prominently displayed, while other makes have not been forgotten. Stumps, balls, leg guards, bat grips, wicket keeping gloves and mats are stocked in large quantities.

The fisherman is well catered for, the "Geisha" gut lines carrying a guarantee. Cord lines and braided cord can be had in lengths varying from 25 yards to 300 yards. "Union" all-steel collapsible fishing rods are recommended, and in addition, rods and reels by Bartleet and Smith & Wall are on hand. Bartleet hooks, both ringed and flat, as well as the well known Mustad hooks are stocked, as are all accessories, such as sinkers, minnows, trout flies and Devon baits. Attention is directed to the airplane spinners.

In the guns and ammunition department are to be found all the best known brands, including British, American and other. Cashmore and Hollis are well represented, as are the Winchester and Browning guns and rifles. Special value is offered in the Demoulin double barrel gun by the Liege Small Arms Co., a hammerless breach loader, 12 gauge, with a 30 in. barrel. The Greener cross bolt gun is worthy of mention, the right barrel being full choke and the left barrel modified.

Cowles & Dunn, of 453 Kent-street, Sydney, are showing on behalf of the Winchester Repeating Arms Co., a number of improved rifles. Model No. 53 is made to take 32 W.C.F., 44 W.C.F. and 25-20 cartridges as well as high speed cartridges, made with nickel bullets and smokeless powder. Again, No. 56 is a Winchester rifle with bolt action and having a magazine capacity of five or ten cartridges. These two rifles are the handsomest placed on the market by the manufacturers and they possess splendid balance and accuracy. Worthy of note is No. 54, a rifle of .270 calibre, and fitted with a wind gauge peep side. This rifle is of the bolt action variety, and has a magazine capacity of five cartridges, the speed of the bullet being 3000 feet a second at the muzzle. The barrel, like that of all the Winchester rifles, is made of nickel steel.

Ammunition is on stock in all calibres.

The firm have been selling the Fox gun for years and have now accepted the sole N.S.W. agency. The gun is made in 12, 16 and 20 gauge and in six grades, prices ranging from £12/10/- to £150. Among the special features is the main spring, which is made of coiled wire, and has not been known to break. The gun is very hard hitting and shoots up to 3½ in. cartridges. Mention should be made of the safety movement, the device automatically going into locked position when the lever is pushed over to open the gun.

Winchester repeating shot guns both for trap and field shooting are made in 12, 16 and 20 gauge. They take six cartridges, the highest grade trap guns being fitted with an elevated rib and the Winchester recoil heel pad. Model 57 has the same action as No. 56, but is specially equipped for target shooting.

Edwards, Dunlop & Co. Ltd., of 123-25 Clarence-street, Sydney, have a fine showing of tennis goods, and while they feature a wide variety of racquets, they carry three from Kent & Co., with their own brands—the "Windsor," the "Challenger" and the

"Supreme." An aluminium tennis racquet shows out well among those made of wood. It is strung with black gut, and the handle has a black tip, which gives a neat effect. Another racquet has an aluminium frame, and is spread with red and pale gut. The bevelled handle grip is made of cork and the end is leather tipped. The "Yorker" also from the Kent factory is neat looking, being strung with red and yellow gut, and has red shoulder tips. The "Supreme" is of light coloured wood with ribbed handle, and black ornamental streaks along the handle. The red and yellow gut and dark red binding make a fine finish. Among the lower priced lines are Japanese racquets.

Large stocks of cricket goods have been laid in, prominence being given to bats by Salmon & Webster. Balls are by well-known English makers, and also a low-priced ball of Indian manufacture.

Farleigh, Nettheim & Co., of 80 Clarence-street, Sydney, are making a big display of sporting goods this year, prominence being given to "Bayard" guns, made by the Liege United Arms Co. Their bolt action rifle, .22 calibre, has lately been added to stocks, one of the main features being that the rifle has a patent safety catch and a pistol grip stock. From the same makers comes a double barrel gun, one style being with the hammer and another hammerless.

Now being added to the sporting department are stocks of cricket bats and hockey sticks. Motor gauntlets are another new line with the firm, and stocks in a number of qualities are on hand.

Wooden and iron golf clubs include the "Haylake" and "Star." Among golf balls the firm's own "Aeroplane" make heads the list, others being the "Ace" and "Victor."

Tennis racquets are well in evidence a few of the makes now on hand being the "Grace Park," "Kooyong" and "Electra." These are strung with English gut and the prices are low.

Boxing gloves are made in men's and boys' sizes, those for men being 6 and 8 oz. Exclusive to the firm is the "Aeroplane" golf bag.

W. S. Friend & Co., of 131 York-street, Sydney, are making a big display of shooting requisites, including guns, rifles and ammunition. Hollis, Wembley & Scott, Stevens and Harrington & Richardson, as well as other makers are represented on the stands. Browning automatic rifles, together with Remington and Winchester models are stocked. The F.N. rifle is good quality at a low price, and a d.b.b.l. gun of which the same may be said is from R. Diamond & Co.

Tennis and cricket supplies form an important feature of this year's display. Racquets are strung with English gut, and carry a guarantee.

Buyers are offered a wide choice of fishing tackle, a wide range of thread and gut lines being on hand, "Mikado" and "Geisha" lines varying in size from fine to heavy. Willis fish hooks are well stocked, and Bartleet make, in bright, japanned and rust proof qualities are shown in great variety. Rods are also well in evidence including qualities suitable for boys as well as the most expensive and highest quality descriptions.

For the golfer the supplies includes the "Model" ball, which while low in price gives good results.

S. Hoffnung & Co. Ltd., of 163 Pitt-street, Sydney, who make a big feature of fishing tackle, are showing a new range in the way of minnows used in trolling for cod. A very wide variety is offered, in the shape of frogs, flies and other simulacra. To make assurance doubly sure, six hooks are attached to each device, three at the end and three at the side. Ready rigged lines with hooks, sinkers and corks complete are on hand, as well as a big range of tackle suitable for all kinds of fishing.

New to this country are the copper coated bullets made by the Winchester Repeating Arms Co., which covering gives greater accuracy and does not foul the gun.

Made for the convenience of motorists, a new gun case is shown, in two qualities, one being made of wood and the other of leather. Both are lined throughout with high quality linen, and are most compact.

Model 58 Winchester rifle has lately been put on the market, the special features being that it is light and suitable for rabbit shooting.

"Straitline" ammunition is of Australian manufacture, and the firm have sole control of the supplies in N.S.W. The new Schultze powder is used and the cartridges are loaded with chilled shot instead of hardened shot.

Tennis goods are shown in grand array, all the best makes of racquets being in stock. Exclusive to the firm are the Sprite, Improved Davis, Etoile, the Aristocrat and the Apollo, all being strung by the firm.

The firm are sole wholesale agents for the McNab golf clubs in ordinary and rustless makes. A fine display is made of golf sundries, the balls including such well known makes as Dunlop, Super Challenge and Silver King. Cricket goods are also stocked including bats by all the well known makers with others bearing special names.

Jones & Joseph Ltd., of Princeton House, Clarence-street, Sydney, as agents for the Alexander Racket Co., of Launceston, Tasmania, are showing the "Cressy" and "Masterpiece" tennis racquets. As already shown these embody certain new ideas of construction and are well finished and slightly.

Keep, Macpherson Ltd., of 252 Pitt-street, Sydney, are making a fine display of golf accessories at prices to suit all purses. The high quality Cochran clubs are available in three grades, and lower priced lines are also on view, including the "Thistle" brand, and others made by Kinghorn. Balls are in wide range, the principal brands being the "Black Dot" and the "Black Recess." Made to the firm's own order, are the "Fred Popplewell" golf graded irons, and also wooden sticks numbered from 1 to 3.

The Slazenger stitchless tennis ball supersedes the old type of stitched ball, and complies with the English tournament regulations. The Slazenger "grooved" ball has the advantage of being easy to control in play, and the grooving enhances its lasting properties. A new departure is embodied in the Slazenger "Demon" ball which is uniform in weight, size and compression. It is stitchless, with a special hand cover of Melton cloth. Tennis racquets are largely stocked, all the best known brands being on hand, including the Alexander patent in six grades and prices. Tennis posts and court markers, as well as net and gut for restringing racquets are available at varying prices.

For cricketers are all the available makes and qualities of bats with balls of equal range and sundries of different kinds.

Noyes Bros. (Sydney) Ltd., are the sole wholesale agents for Western ammunition. Newly introduced are cartridges coated with lubricating alloy, to which the name "Lubaloy" has been given. All cartridges formerly loaded with plain lead bullets are treated with the new covering, which keeps the bullets free from grease and prevents leading and fouling of the barrel. The "Lubaloy Marksman" L.R. .22's, coated with the new alloy are filled with non-corrosive priming and "Lesnok" powder. "X pert" is the name given to a new smokeless cartridge of a light make, suitable for close range shooting where a heavy load is not required. "Super-X" is more expensive, carrying a

heavy, long range load for difficult shooting. Both makes are filled with smokeless powder.

Three models of the Marlin repeating rifles are carried, all being equipped with lever action. Nos. 37 and 38 are large rifles, while No. 39 is a small game and target rifle, and No. 37 has a full magazine that carries 25 cartridges at the one loading. Selling at a low price is the L. C. Smith field gun.

Smith, Copeland & Co. Ltd., of 33-37 Regent-street, Sydney, have on hand ample supplies of tennis nets, both single and double edge and made of light and medium cord. Sizes are 42 ft. x 2 ft. 6 in. and 42 ft. x 3 ft. 6 in., single and double tops. The nets are strengthened with headlines of flexible steel wire and have bands of duck. Tennis racquet covers of the firm's own make are available, and Lowe's tennis net winder is also on view, its chief features being that it will not twist the net and the screws do not rust.

A speciality is made of equipment for the motor tourist and the camper. A large double spread of canvas serves the combined purpose of a garage and tent. The tent is divided into three sections, the car being in the middle. Eight persons may be comfortably accommodated on stretchers.

A collapsible double bed, with springs and mattress is another comfort provided for the camper, a strong point being that the bed can be set up in three minutes. The sportsmen's "De Luxe" tent possesses the advantage of being easily erected and taken down, only one pole being required, and ample room being provided by the top spread. Two guy ropes only are wanted when the sun awning is in use. Made from closely woven dark green duck, the tent is well ventilated, being provided with a door and a window.

Strong and comfortable, the "Drumtight" collapsible stretcher folds up compactly, and is as rigid as a bedstead when set up. An out-door sleeping bag serves a number of useful purposes. It is made of waterproof duck and is lined with wool blanketing. At the head there is a pocket into which clothes can be packed, and this also serves the purpose of a pillow.

The "Aberdeen" roll top camp table is made specially for campers' use, but serves also as an emergency table for the porch, verandah or lawn. Folding meat safes and coolers and dining camp suites for motoring or sea-shore parties are on hand in a number of sizes, in addition to camp stools and a wide range of cooking stoves, portable fire places and swinging hammocks.

S. Walder Ltd., of 340-42 Pitt-street, Sydney, are featuring the "Acme" brand tennis nets, all of which are steam-tarred and made to withstand the ravages of the weather. Two grades are offered, one being made of heavy and the other of medium hemp, and both have flexible wire headlines. Better quality nets have double flexible wire headlines.

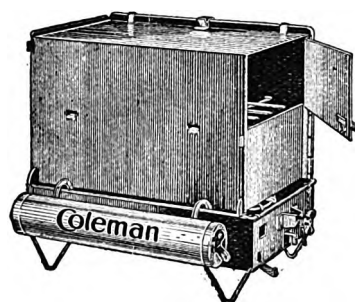
Quoit sets, consisting of wooden pegs and tauntly laid and wormed ropes are also stocked.

Melbourne

The Coleman Quick-Lite Co. of Australia, 185 William-street, Melbourne, supply an excellent camp convenience in the Coleman camp stove. Several patterns are made, each with features of its own, but any one of them provides a solution of the camp cooking problem. The fuel used is ordinary motor spirit, and anything may be cooked without the trouble of gathering fuel and without the black and smoking utensils usually associated with camp meals.

Model 2 may be taken as an example. Every detail for operating the stove is built-in, pump, oven, wind shield, warming cabinet, and yet it is light and compact, folding like a suit case.

The Coleman lantern is another useful camp appliance. It gives 300 c.p. at a trifling fuel consumption, and may be hung up either in the tent or in



the open, neither wind nor rain interfering with its efficiency; a great comfort for the sportsman or camper.

In a few districts the firm are still able to allot agencies, and retailers interested would find these lines simple to demonstrate and most attractive to buyers.

Hawkes Bros. Pty. Ltd., of Geelong and Melbourne, as agents for A. G. Spalding & Bros. (Aust.) Pty. Ltd., are suppliers of the entire range of sporting materials of this make. Tennis racquets are supplied under the names of "Topflite," "Gold Medal O.S.," "Krobat," "Crescent" and the cheaper lines of "Sunshine" and "Greenwood" for the beginner. Slazenger's racquets stocked are the "New Primoris" and "New I.Z.," while Prosser's lines are carried in complete range. All brands of tennis balls are available, and also accessories such as nets, court markers, racquet presses and covers.

Golf requisites cover a large section of the sporting department. The "Kroflite" wood club comes in three models. A golfer selecting a full set of sticks expects each to be of even weight and balance. To ensure this Spalding's supply "Kroflite" custom made sets of irons, five or seven to the set as desired, and Rufus Stewart sets of woods comprising two or three clubs. Other grades of clubs are "Crescent" and "Thistle." Golfers' sundries include peg tees, golf ball enamel and cleaners. Spalding's golf balls include the "Kroflite," "Championship Mesh," "Dimple" and "Sunshine Mesh." From other makers come the "Maxfli," "Silver King" and "Victor." A good selection of Australian balls in various grades is constantly available.

For the coming cricket season a supply of autographed bats will be shown, the leading lines being those by Ponsford and Woodfull. Amongst cricket balls are Spalding's in several qualities and other prominent makes. Other requisites include nets, batting and wicket-keeping pads and matting.

The stock of fishing tackle is large and varied. Rods for every purpose are in a wide choice. The new season's stock of lines is now opened, as well as fishing hooks, while all anglers' accessories are obtainable.

The firm carry a reliable gun at a medium price which will be found suitable for the average buyer, and can be recommended. This is the "Corio"; a d.b.b.l. weapon. The brands of Cashmore, Hollis and Victor are also obtainable. In rifles such leading makes as the Winchester, Bayard and Remington may be found here and every class of ammunition is included in this department.

Gordon Henderson Pty. Ltd., of 235 Queen-street, Melbourne, as distributing agents for the popular Remington ammunition, carry cartridges of every kind supplied by that company. This organisation presented the sporting world with a remarkable innovation when they marketed their "Kleanbore" .22

cartridges, which make it unnecessary to clean the rifle barrel so long as this cartridge is used. After many thousands of rounds have been fired it is affirmed that the barrels show no signs of rust, pitting or corrosion, nor is the accuracy of the weapon impaired in any way.

The principle has been developed by the Remington people until all rim fire and central fire ammunition is now available in "Kleanbore," and the latest extension of this type is to their 410 calibre shot-gun cartridges, of which the firm hold ample stocks. It is likely that in the near future the same feature will be added to 12 g. shells also.

This 410 ammunition is supplied in several loadings, "Kleanbore," "Nitro Express" and "Nitro Club," in 2 in. cases, are loaded with progressive burning smokeless powder. Both have longer brass heads of improved construction with indentation rings which hold the paper body firmly, and they are equipped with a new battery-cup primer; the No. .5. Shot sizes are 4, 5, 6, 7½ and 9 chilled. "Kleanbore" 410 "Nitro Express" in 2½ in. cases are long-range loads.

Another interesting announcement is that of the Remington hollow-point .22 cartridge, which is also a "Kleanbore." The claim made for this ammunition is that after entering an object the bullet expands or "mushrooms" in such a way as to make a certain kill. Tests have shown that although the entering hole is the same as by any ordinary bullet, the interior cavity is large enough to hold a hen's egg. The hollow-point bullet is of great value when shooting at vermin, as foxes, hawks and similar pests seldom escape when hit.

J. S. Kidd & Co. Pty. Ltd., of 410-12 Lonsdale-street, Melbourne, have placed in stock a range of fishing rods for all purposes, of both English and American manufacture. There are also a number of bamboo rods, strongly made and reasonable in price, which are useful lines for the retail store. Fish hooks are of British and Swedish origin, in all sizes, both gutted and bare. Accessories include reels, ferrules, rings and fittings of all kinds, and every description of artificial bait. A complete selection of fishing lines, in silk, cotton and linen thread is constantly available.

Firearms and ammunition form another important section of sporting goods. The leading makes of cartridges, Eley's and Nobel's, as well as Remington and Winchester patterns are on hand. In the popular 12 gauge ammunition the firm recommend their "Reliance" shells, made to their own order, loaded with either black or smokeless powder. Eley's "Grand Prix" smokeless are in 12, 16 and 20 gauge; Nobel's "Nile" smokeless Balistite in 12 gauge; and "Primrose" and Kynoch's 410 gauge, 2 in. cases. Remington cartridges are loaded with Dupont smokeless powder, American loading; also "Nitro Club," "Arrow" and "Economy." Winchester metallic cartridges are in all sizes.

Guns and rifles are kept in Stevens', Bayard, H. & R., and other makes, including several quite reliable patterns at a low price.

Noyes Bros. (Melb.) Pty. Ltd., of Bourke-street, Melbourne, are representatives of the Western Cartridge Co. of East Alton, Ill., U.S.A., and suppliers of all ammunition made by that organisation.

Their "Super-X" cartridges have achieved great success on this market, the range being unusually long and the "shot string" short. This means that in long distance shooting the shot is so controlled that a great percentage is effective, owing to the absence of spread during the entire range. The "Western X-pert" is recommended for game shooting where extreme range is not so essential. The aim of the makers in this case has been to provide a cartridge of good quality and accuracy at a low price. A special smokeless powder is produced exclusively for their "X-pert" shells, which are ideal for quail, rabbits and similar game.

The firm are now marketing a new .22 cartridge called the "Dubaloy." As the name indicates this new ammunition has a bullet coated with a lubricating alloy metal which keeps the rifle barrel clean and rustless. The great advantage is that with perfect lubrication and cleanliness the weapon lasts longer, and gives the owner no trouble to keep in condition. Neither hands nor clothing are soiled by this coating, which gives the bullet a shining appearance, and the cartridge is just as accurate and reliable. A non-corrosive priming and Lesmok powder are additional features of this new .22 ammunition.

George Russell Ltd., of 452 Flinders-street, Melbourne (now incorporating S. Cohen Sons & Co. Pty. Ltd.), are supplying all classes of sporting goods, including shooting and fishing equipment and accessories.

For the coming season a selection of fishing tackle will be available suited to every need of the buyer. The stock of rods comprises steel patterns, English greenheart, and split cane in a variety of designs and qualities. The well-known Mustad fish hooks are regularly obtainable in all sizes and shapes. Moosehead silk lines of approved quality may be ordered in all sizes. Exceptional value is offered in the "King Kod" fishing lines. These are supplied either in cotton or Irish linen in tan, white and green, and are considered amongst the best of their kind at remarkably low prices.

Coming to the firearm department practically all needs are met. In shot guns the English made weapons of Holloway & Co., Birmingham, are strongly recommended. Both quality and finish are undoubtedly first-class, while the approval of many great marksmen endorses the penetrative power of the "Skull" brand guns. A number of fine patterns may be found, from a moderate price up to the "super-gun" at a high figure, but of the very best workmanship. A feature of this maker is the fact that each weapon carries a certificate from the proofmaster of Birmingham. In another section are shot guns from A. H. Fox & Co. These American guns are well-regarded in the trade, and represent a well-made and quite dependable line at a reasonable cost. Many special points in construction are embodied, such as a barrel of great strength, the Fox spiral spring fore-end, and if required the patent automatic ejector. What is considered unusual value is represented in another type from the Western Arms Co., of Belgian make, this gun will give trustworthy service at a price within the reach of most.

Full ranges of such rifles as Winchester, Remington, Bayard, and F.N. are also available. Amongst the ammunition may be mentioned the firm's "Empire" and "Akurate" shot gun cartridges, as well as every description of ammunition for gun or rifle. In addition to a variety of gun cases, accessories for all sporting purposes are in full supply.

M. B. Wragg & Co. Pty. Ltd., of 117 Cochranestreet, Gardenvale, again present an interesting catalogue of fishing tackle and appliances for 1928-29. Every article is plainly described, and illustrated in such a way that the buyer may see exactly what he requires.

The firm exhibit a fine range of rods, the list running from a 7 ft. ash at a very low price up to the highest quality English built split cane rods obtainable. Every fishing centre has its own problems, and a rod is supplied to cover every want. Amongst the new patterns a useful type for cod or snapper is now being made. This is No. 1052; it consists of a rapier steel foil set strongly into a blackwood butt, and fitted with porcelain rings. The finish is excellent, and the cost is remarkably low for so good a trolling rod. The buyer will find it difficult to pass No. 1052 on its merits.

Large stocks are carried of silk waterproof lines, including Allcock's best quality, and "King Eider," the latter a solid plaited line, waterproofed by a

process which leaves it soft and pliable. In this section are included "Brookline," "Star," "Dandy" and "Saltene" enamelled silk lines in various sizes. Amongst the linen varieties a reliable grade is the "Alpha" cuttyhunk line, which is strongly recommended. It is supplied on spools, ranging from 6 to 36 cord, with a tested breaking strain up to 72 lb. This is the strongest line, made at a moderate price. "Alpha" twisted and braided linen thread lines are made of the best Irish flax and are supplied in tan or green, neatly packed in red boxes, and labelled "Alpha." Coils of superior lines and grey linen snapper lines may also be mentioned amongst a selection in this class.

Coming to the metal baits and accessories, again an endless variety is offered. The universally popular "Alpha" Aeroplane and Tandem spinners, which have proved good sellers wherever displayed are well featured. For cod-fishing in November and December no sporting department should be without a selection. A series of a dozen is included in the list. Phantoms and Devons will also be in demand. These are all manufactured by the firm, who have specialised in this work for many years. Their ring mounted Devons are now produced of a quality and price which compare with anything from other parts of the world. Spoon baits, trout and perch assortments packed in half dozens, and trout and perch spinners are all worthy of attention.

Other requisites are "Alpha" gut lines, "Alpha" trout and salmon casts and gut traces, and silkworm gut in packets of a dozen strands. An important department which has developed year by year is that of "Hooks to gut." Special attention has been given to this section, any type of gut hooks can be made to suit local needs, and large supplies are always available. The practice is to use the best silkworm gut only. The grade of this gut is apparent, its smoothness and strength revealing the quality. Every sized hook is available ready fitted with single, double, or twisted gut as required. Fishing hooks of all kinds, landing nets, baskets and bags, as well as all spare parts, complete a comprehensive range of tackle.

How They Succeeded

How a Chicago plumber named A. Koff was induced to stock a few lines of hardware for his wife to sell while he was absent, and how this has led in six short years to a profitable family store with Koff giving all his time to it is told in "Hardware Age" of recent date.

A readiness to obtain what people wanted, even at inconvenience to themselves, was the principle on which the Koffs built up their connection, and when, a year ago, they were in a position to build for themselves, special attention was given to arrangement and display. The salesroom, 23 x 60 ft., is lined on each side with modern wall-cases, while the centre is occupied with low-open display tables arranged to face the side walls and leaving ample space for customers to pass on each side.

A feature of the store arrangement is the fact that the nail counter, which also serves as a wrapping counter and holds the cash register, is placed across the store at the extreme rear. Every customer, by this arrangement, in having a purchase wrapped and receiving change, is made to walk the whole length of the store twice, usually up one aisle and down the other. Mr. Koff states that it is not uncommon, when there are several customers in the place, to have them bring back articles from the tables faster than he can wrap them up, and that he has "waited" on several customers in turn without ever having left the wrapping counter.

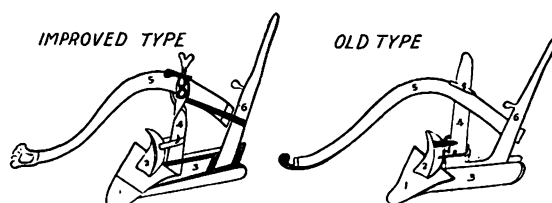
As already stated, it is a family store. With no knowledge of hardware to begin with, Mrs. Koff

has become an interested saleswoman, and the children promise to be just as keen. Thus Ralph, the only son, a boy of 10, keeps the tables spotlessly clean and the trays filled with goods. He regularly visits the five and ten cent stores in the neighbourhood and often copies their style of display. The father offers encouragement by allowing him 10 cents per table by way of weekly wage, and also by promising that on his twenty-first birthday his name alone shall stand over the door.

Chinese Ploughs

From "The Chinese Economic Bulletin," an official publication, we reproduce pictures of two ploughs from the Fukien province, an old and a new or improved. The latter, patented by a local artisan, is "lighter and more handy than a foreign plow, can make a deeper furrow and is more durable than a Chinese plow of the old type."

In the illustrations herewith the figure (1) represents the share, (2) the coulter, (3) mouldboard, (4) the gauging standard, (5) the curved beam and (6) the handle.



According to the report the farmers of the province have welcomed the new implement as a boon, and the inventor is raising funds to manufacture on a large scale. The selling price expressed in British currency is about 25/-.

We quote as they stand the points of difference between the two implements:—

"(a) Whereas the share of the old plow is of cast iron, which is easy to break, and constantly needs sharpening, the new plow has the share in two pieces, the front part of steel to stand hard service. Even if it breaks or becomes blunted, it can be replaced at a lower cost.

"(b) The mouldboard of the old plow is of wood, which becomes rotten in the wet season and cracked and worm-eaten in the dry season requiring replacement every few months, or at most in a year. In the new plow the mouldboard is of iron, weather and worm proof.

"(c) The gauging standard of the old plow is fitted into the curved beam through a hole, which weakens the beam and makes it easy to break. Besides, it is so fixed that it is not free to gauge the depth of the furrow, or permit moving the beam to suit the height of the draft animal. In the plow of the new type, the gauging standard is fastened to the beam by two iron plates secured by a screw. This enables regulation of the gauging standard to the required depth of furrow, and of the beam to fit the animal.

"(d) In the old plow the cast iron coulter breaks easily, whereas that of the new plow is made of wrought iron.

"(e) In the old plow the handle fits into a socket in the landside and is joined to the beam through a hole of such size as to make the handle unable to stand hard service. In the new plow these drawbacks are eliminated. The handle is dovetailed into the landside more securely, and is joined to the gauging standard by two iron plates fastened with a screw, a method calculated to give far better results."

Electrical Notes from New Zealand

(Specially Contributed.)

Horowhenua Power Board has instructed its Engineer to bring down a report on the subject of using electricity for heating brooders and incubators.

Opotiki Borough Council has accepted the Bay of Plenty Power Board's offer to supply street lighting at £3/5/- per 100 watt lamp and £4/15/- per 200 watt lamp per year.

Otamatea County Council is arranging a load survey of the County to ascertain the amount of power required so as to decide whether extensions of the supply system will be necessary.

The following loans have been authorised for electrical works:—Opunake Power Board, special rating area supplementary loan, 1928, £2200; Marlborough Power Board, for extending reticulation, £27,500.

Waitaki Power Board has resolved to invite applications for the position of salesman-cannasser, to canvass all the older country districts, as it is desirable to instal as much apparatus as possible to use current up to the amount of the guarantees, and to increase them as far as possible.

Manunui Town Board recently held a special meeting, at which representatives of the Town Board were present, to discuss a supply of Borough electricity to the Board. Notice of motion was given that the Council supply Manunui with electricity for eight years, or for five years with the right of renewal for a further three years.

North Canterbury Power Board has applied for authority to raise immediately £40,000 for a period of ten years. Arrangements have been made by the Treasury to issue the necessary Order in Council permitting the Board to raise the construction and general loan of £160,300 for a shorter period than 36½ years, as sanctioned by the ratepayers.

Marlborough Power Board has decided to again make a demonstration at the Marlborough Agricultural and Pastoral Show in October, and to offer electrical firms free power for demonstration purposes. The matter of negotiating a loan of £15,000 on account of the £27,500 which the Board has been authorised to raise, has been left in the hands of the Chairman and Secretary.

Waitomo Power Board has decided to make a charge of 6d. a month for inspection and fuse maintenance. A proposal to charge a meter rent also was deferred until the October meeting. The charge for industrial motors was altered to a minimum basis of ninety units per h.p. per quarter for all motors under 10 h.p. and a maximum demand charge for all over 10 h.p., the rates for respective powers to be at the consumer's option.

Damevirke Power Board is installing Cyclometer dial meters on all distant installations so that the meters may be easily read by consumers; thus making it necessary for the Board to read only once per year. The meters in the new areas—Magahel, Waitahora and Motea—will be read during August, and thereafter cards will be sent out at two-monthly intervals, together with the Power accounts.

Five inspectors of the Auckland Power Board have commenced the lengthy task of inspecting every installation in the Power Board's district, in accordance with the new Government regulations. Nearly 50,000 installations will have to be examined, and a complete round is expected to take five years. After that the process will be repeated, as the regulation calls for inspection at least once every five years.

Dunedin City Council reports that preparatory work is in progress for the installation of the new 3000 kw. generating unit. A contract for the pipe line has been let to the Dunedin Engineering & Steel Co. Ltd., the stipulated time of completion being January, 1929. Excavation is in progress for No. 1 Power Station at the site of the proposed new dam, work on which is proceeding. It is expected that the new unit will be erected by the end of next February.

Bay of Plenty Power Board has arranged a switching on function for September 1 at Opotiki, and a similar function will be held later at Whakatanu. The change-over in the Borough from d.c. to a.c. is proceeding, and wiring of houses on the "block" system is being undertaken as rapidly as possible. Installations in the more-thickly populated parts will be made at an early date from the Edgecumbe substation. The Board has raised a loan of £70,000 on exceptionally good terms.

Manawater-Oroua Power Board reports that the demand for power has become very urgent, and dozens of applications for service lines are held up. Preference is being given to the dairying industry, but as many of the new sheds require long service lines, the work cannot be expedited. The Orongopunga extension has been completed, and a start made on the Rewa-Livingstone and the Waituna-Stanway extensions. During August 10 ranges, 19 water heaters, 8 milking motors and 7 other motors were installed, and 36 extensions made to existing jobs.

The Engineer of Banks Peninsula Power Board recommends that the Okains Bay, Pigeon Bay and Okaroa feeders be converted to 6600 volts immediately after the close of the coming milking season; and that in order to allow ample time for the supply of materials, tenders closing not later than October 31, should be called for one bank of 33,000 volt. to 6600/3300 volt. transformers, and fifteen 6600 volt. distribution transformers; also one 6600/3300 volt. auto-transformer for Akaroa, together with necessary switchgear, insulators and fuses, etc. During July installation work consisted of one dairy water heater, 3 ranges, 3 lighting installations and extensions, totalling 37 points.

The question of the most economic type of pole to use in transmission lines is engaging the attention of power supply authorities. Owing to the comparatively short life of wooden poles, the claims of concrete and steel are being considered as offering the more economical proposition. A few years ago Thames Valley Power Board erected a number of poles representing thirteen different varieties of eucalypts. Some were treated with hot tar, some with one or two coats of creosote, and some left untreated. At a recent inspection it was found that below ground-level the untreated poles had decomposed to a depth of fully two inches, whereas the poles treated with two coats of creosote, remained practically as firm as when first erected. The life of the untreated poles is estimated conservatively at fifteen years by the Board's engineer.

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VOL. XLIII. No. 11

OCTOBER 6, 1922

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For 30/- per Annum we will supply (in addition to above) The Ironmonger (London), weekly, and a copy of The Ironmonger Diary. All Post Free. Single copies 1/- each. Subscriptions payable in advance.

Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

Paint For Water Tanks

To the Editor "Hardware and Machinery."

Dear Sir,—

We notice in your issue of 6th inst. an inquiry from a subscriber asking particulars of paint for inside galvanised iron tanks. We notice your answer to this correspondent and have to advise that we have tried most of these preparations ourselves and find them more or less unsuitable.

Our practice here is to paint inside a tank with cement and boiled linseed oil giving it one coat only. The cement is mixed to a paste with water in the same manner as red lead paint, then the oil is stirred in. This of course will take a considerable time to mix and it is necessary to frequently stir while the paint is being applied. We have been using this mixture for many years and find it the best we have tried yet.

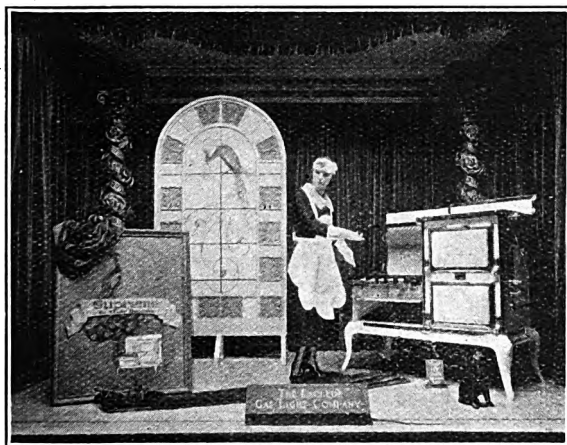
We may also say that the Queensland Government Works Department use this mixture for their work.

We are, yours faithfully,
Cathcart & Ritchie Ltd.

Townsville, Queensland, Sept. 21, 1928.

Gas Stove Display

The illustration hereunder represents a gas stove display arranged by Mr. S. C. Reiser, of the Laclede



Gas Light Co., St. Louis, Mo., U.S.A. It filled a big window and the drape used was peacock blue in colour.

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Foundry Problems

Beecroft & Partners Ltd., of Sheffield, England, describe themselves as metallurgical, foundry and refractory specialists. They are prepared to advise engineers and foundrymen regarding any practical difficulty which they may encounter in the course of their work. Physical tests and chemical analyses are made of all kinds of ferric and alloy substances, a staff of experts being employed for this purpose. They are also known as manufacturers of certain specialities required in the foundry and engineering shop—aluminium flux, brass flux, ladle flux, and a patent cupola flux named "Puric." Then there are core oils and compounds, plumbagoes, parting powders and other foundry requisites. "Carbest," an absorbent for carbon dioxide, is used in many works for the estimation of carbon in iron and steel.

While the works and laboratories of the company are in Sheffield, their registered office is at Norfolk House, Cannon-street, Birmingham.

Foreign Exchanges

Par.	—	—	Sept 24	Sept 27	Oct 1	Oct. 4
4.886	New York	Dols to £	4.84½	4.85	4.84½	4.84½
4.866	Montreal ..	Dols to £	4.84½	4.85½	4.85	4.85
25.225	Paris	Fros to £	124.12	124.00	124.02	124.02
35.000	Brussels ..	Bels to £	34.91	34.90	34.89½	34.90
25.225	Rome	Lire to £	92.73	92.79	92.78	92.70
12.107	Amsterdam	Florin to £	12.09½	12.09½	12.09	12.09½
12.107	Batavia ..	Gul to £	12.10	12.10	12.10	12.08½
18.159	Stockholm	Kron to £	18.14	18.13	18.12½	18.13
18.159	Oslo	Kron to £	18.19	18.20	18.19½	18.19
18.159	Copenhagen	Kron to £	18.19	18.20½	18.19½	18.19
20.43	Berlin	Gmks to £	20.34	20.35	20.34½	20.36½
24	Calcutta ..	Pento rup	18	18	18½	18½
24.58	Yokohama	Pento yen	22½	22½	22½	22½
*	Hongkong	Pen to dol	24½	24½	24½	24½

*Par depends on rise and fall in price of Silver.

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Editorial

Quality or Price?

In these days the sacrifice of quality to price is all too apparent. This tendency is fostered by the department and one-price stores which in the large cities especially are affecting all classes of business, hardware included. Sometimes the purchaser is led to believe that the cheaper article is a satisfactory substitute for the dearer. If not "just as good" it will serve the purpose or do the work. More often the cheap article is sold without comment or recommendation of any kind. This is most noticeable in the large retail establishments of Sydney and Melbourne. The salesmen or saleswomen, as the case may be, studiously avoid the subject of quality. Inquiries as to the grade or fitness of the article are either evaded or directly refused to an extent suggesting that they are acting under instructions. While encouraging the sale and purchase of cheap articles the management evidently is not prepared to take any responsibility for what they are made of, or how they are put together, or whether they will serve the purpose in view. They meet the popular demand for cheapness and leave the matter there.

That the regular hardware merchant is following in this regard the lead of the "big stores" is also well in evidence. In the effort to secure business, ironmongers are shading prices and sacrificing quality. Some men seem unable to make sales unless they have cut prices to offer. They actually boast of their ability to "get under" the other fellow, forgetful of the fact that salesmanship con-

sists not in selling goods but in selling them at a profit.

Suffering as he does from "chain store" or "cheap jack" competition, the hardware dealer's disposition to emphasise price is quite understandable. But we think it is to be regretted all the same. We question if there is any real necessity for it. Men are still large buyers of "hardware," and most men are open to advice in making their purchases, advice from those who know better, that is to say. Were the merits of the better (and dearer) article pointed out to such a customer in nine cases out of ten we believe he would be prepared to pay the difference. Such a transaction would be to the benefit of the "shop"—to begin there. From the shopkeeping point of view it is better to sell a 3/- pocket knife carrying 1/- profit than to sell three 1/- knives at a profit of 4d. each. Why so? Because although the profit is exactly the same in both cases it costs more to stock and sell three knives than it does to sell one. Assume two salesmen at the counter and from the "selling" standpoint the way the thing works out can be demonstrated on paper at least. In the time taken by the one assistant to sell three knives at 1/- each the other sells three at 3/-. This is often lost sight of, but there it is, and the principle can be applied all round. Needless to say we are not suggesting that the dealer should only carry good pocket knives and other lines of stock. That would be folly, especially in some situations. In the face of competition Sheffield cutlers find it necessary to make second grade edges. But they do not put their trade marks on these or push them as they do the branded articles. All we suggest is that the regular dealer should act in the same way, place the emphasis on quality rather than on price, the department stores notwithstanding. He cannot compete with these in price and his only hope is in the "service" he renders.

It is better for the dealer, we have said, to sell the dearer rather than the cheaper article. Generally speaking it is better for the purchaser to buy the dearer rather than the cheaper article, especially in the realm of "hardware." In the case of an article that you have to handle or look at for any time thoughts of quality are with you long after price is forgotten. How often in viewing such a purchase one has felt regret that he did not obtain something better. Go to work in your garden with a cheap spade—this is an actual experience—and you find it straightening out and becoming useless the first day. Buy a British brand which the editor will give you in confidence and you will find it maintaining its shape in the stiffest of soil and promising to "last a lifetime."

Australasian Finance

(Contributed by 3/233)

The War Burdens

It has been explained in the first article how the machinery in Australia was manipulated to permit the huge inflation of credit to be effected. Al-

though we have only recounted in detail the method adopted in Australia the same principle is applicable to Great Britain and New Zealand—a surrender of the gold standard and a substitution for it of a paper money standard as legal tender. The most valuable function of the gold standard is that it sets strict limits to the creation of credit in that any undue creation, not advanced in anticipation of future production, sets in motion forces which drag away the gold basis, and compel restriction and partial liquidation of the credit pyramid to bring about restoration of the right proportion between gold and credit. But whenever paper money is substituted for gold there is no limit to the credit that may be pyramided on it as a base because as every increase of credit calls for larger reserves of legal tender money, so further supplies of paper money can be printed to enlarge the reserves. Now we are in a position to see the extent and consequences of the borrowings of Great Britain, Australia and New Zealand, the interest burdens thereby created, and the proportions of the national incomes absorbed in the interest payments.

The National Debts

Taking the figures from the tables supplied to the Economic Conference at Geneva held in 1927, we find that before the war the National Debts of Great Britain, Australia and New Zealand, compared as follows, with the debts after the close of the war, and five years later (figures in millions of pounds sterling):—

	1913-14	1920-21	1925-26
Great Britain ..	706	7,875	7,665
Australia	19	401	458
New Zealand ..	90	201	239

Here we see that Great Britain multiplied her National Debt eleven times by war expenditure, the Commonwealth of Australia twenty times, and the Dominion of New Zealand two and one quarter times. But on the cessation of war one would expect that such exceptional borrowings would cease, and in the case of Great Britain it was so, and she commenced to reduce the enormous debt incurred under the unprecedented stress of war. Her debt fell by 210 millions in the four years following 1920-21. But in the case of Australia the Commonwealth debt increased by 47 millions (apart from large increases in State indebtedness) and New Zealand added 38 millions to her debt in the four years following 1920. Not only so, but Australia has been increasing her debt by many millions every year since, and has large schemes ahead which call for still further borrowings annually.

One Thousand Millions of Debt

Never before in the history of the world has a small community of little more than 6,000,000 people incurred £1,000,000,000 of debt. This works out at £169 owing by every man, woman and child in the Commonwealth. Of course there are some reproductive assets to show for the debts, the capital costs of the railways being £303,000,000, but it is worth noting that not one of the railway

systems of Australia earns enough revenue to pay working charges and interest on capital borrowed. Nearly one half of the interest bill of the States debts, £679 millions, has to be provided by taxation, and the whole of the interest on the Commonwealth debt of 347 millions.

But what we most need to consider is the profound influence that the expenditure of £1,000,000,000 of borrowed money has had during the last fifty years on the Australian national income, standard of living, rate of wages, etc. No wonder that we have magnificent cities, stately picture palaces, wealthy banks and assurance companies, enormous savings bank and other deposits, and a non-productive population out of all proportion to the population producing wealth for human consumption. A thousand millions of borrowed money distributed in a few years amongst a small community—no wonder Australia has been prosperous! Heaven defend us from ever being required to repay our debts! The borrowing of £1,000,000,000 means that we have enjoyed and consumed that amount of goods over and above what we produced; to repay the debts would mean the production of £1,000,000,000 over what we consume. The very thought of having to provide the annual interest bill should the fertilising stream of borrowed money be cut off at its sources, is enough to send a cold shiver down one's back.

Heavy Taxation

Following are the tables showing the growth of taxation and the proportions of national incomes dragged from the unhappy taxpayers by the rapacious tax gatherers, and in this table Australian State taxation is included as well as Commonwealth:—

		Estimated Income in millions	Total taxation in millions	Percentage of income taken
Great Britain . .	1913-14	2,250	257	11.4
" "	1924-25	3,900	849	22.0
Australia	1913-14	258	27	10.4
"	1923-24	430	79	18.4
New Zealand . .	1912-13	57	7	12.8
" "	1925-26	116	22	18.9

There is not the slightest doubt that the heavy proportion of national income taken by Government in taxation decreases production, discourages saving, promotes unemployment and makes the conditions of living more severe for all classes. Hence the great and imperative need for economy in Government and private life.

Increase in Bank Deposits

All purchasing in the modern world is effected with promises to pay. These are of two kinds—although essentially identical—one material, bank or government notes; and one immaterial, the promises of a bank to pay written on its ledger and called deposits, transferable by written orders called cheques. These promises to pay circulate as would gold coins, and purchase as gold coins would. They constitute the real currency, the money, of the com-

munity. Now it must be manifest that if the community were free from Government interference there would be a close connection between the quantities of goods and services available for purchase and the quantity of credit money wherewith to purchase them, because all production in the modern world is on credit. The process of production calls for the creation of credit, and the process of consumption correspondingly cancels credit.

But if the Government inject into the credit economy of the community large amounts of promises to pay, notes and deposits, such credit has little or nothing to do with production because the Government is not a producer of goods for human consumption. Hence the proper proportion between goods and credit is upset and prices rise—the credit depreciates in value or purchasing power.

The credit available for purchase in the Australian Economy in 1911 as compared with 1925 compares as follows:—

	1911	1925
Bank Note Circulation . .	£876,400	£202,000
Australian Note Circulation	10,156,000	55,140,000
Deposits in Banks	147,103,000	327,045,000
Deposits in Savings Banks	59,393,000	184,971,000
	<u>£217,528,400</u>	<u>£567,358,000</u>

No one can pretend for a moment that production of goods and services for consumption has increased in anything like the above proportions. To illustrate, let us compare the quantities of wool and wheat, the staple products of Australia, produced in those years:—

	1911	1925
Wool, lb. greasy . .	721,298,000	791,266,000
Wheat, bushels . . .	71,636,000	113,443,000

With an increase of only 14 per cent. in the chief items of production, there is an increase of over 160 per cent. in the credit moneys of the community. There could only be one result—a great rise in prices both for labour and commodities. The official statistics of the Commonwealth supply the necessary comparison:—

	1911	1926	Increase %
Weekly rate of adult male wages (1914)	55/3	97/7	76½
Weighted average food, groceries and housing	1000	1756	75½

Thus we see that the worker has had a large increase in his weekly wage, but he has to spend it all to buy what his smaller wage would have bought in 1911. The great increase in the cost of living is cruel to those with more or less fixed incomes; and when unemployment is rife the situation is very much worse with a price index of 1756 than with one of 1000. And so the two great planks of Labour policy fifteen or twenty years ago—the Commonwealth Bank and the Australian Note Issue—have had boomerang results upon the class that most loudly called for them.

New Bank For New Zealand

A private Bill was recently brought before the House of Representatives providing for the establishment of a new bank to be called the London and New Zealand Bank Ltd. The capital is to be £3,000,000 in £1 shares and a third of this sum is to be subscribed before July 31, 1930. Well-known merchants, solicitors, accountants and settlers in different parts of the Dominion are behind the proposal, and provision is made for a board of directors in London as well as in New Zealand. The bank is to undertake all ordinary banking business, including the issue on certain terms of bank notes, but special attention will be devoted to the operations of primary producers. So it is understood, at any rate.

New Zealand is already served by two local banks of issue, discount and deposit—the Bank of New Zealand and the National Bank of New Zealand Ltd. Then, placing them alphabetically, the following other banks do business throughout the Dominion—the Bank of Australasia, the Commercial Bank of Australia Ltd., the Bank of New South Wales, and the Union Bank of Australia Ltd. In addition, the Government have several departments making advances to settlers, in the form of loans upon land and live and dead chattels, and there are also the Post Office Savings Bank, several private savings banks, and a number of stock and station agency concerns with banking departments, or performing certain banking functions.

Progress of Aviation

Few people are aware of the wonderful progress of commercial flying during the past year or so. In the Bulletin published by Imperial Airways Ltd., of the Airport of London, Croydon, some interesting facts are given.

And these facts are not displayed with any great flourish of trumpets; they are just stated as a matter of business. An alteration in the time table of the East-bound air liners from Cairo; the temporary suspension of the 1.25 p.m. liner on the London-Ostend-Brussels route; these are amongst the notices appearing in the June monthly Bulletin.

We learn that since April, 1924, the cross channel services have flown 3,367,000 miles, carried 71,587 passengers and nearly 3000 tons of freight.

Night flying, which seemed so astonishing to us in Australia and New Zealand, is an every-day affair in Europe. A regular night service of fast air liners is operating from London to Moscow via Berlin, the time occupied being a matter of 29 hours from Picadilly. The time table is London, depart 7 a.m., Berlin arrive 4 p.m. Berlin is left at 11 p.m., allowing a stay of seven hours in that city. Flying throughout the night the Junkers all-metal air liners arrive in Moscow in the early afternoon of the following day.

Air experimental service from Moscow to Pekin was running during the summer, and next year it is hoped that a regular through night and day service, traversing the whole of Europe and Asia will be an accomplished fact. So many regular air services are working all over Europe that it is now quite simple to arrange a comprehensive tour from city to city covering the entire continent.

Financial

Irate Father: "What's this story I hear about your bank account?"

Dutiful Son: "Oh, I think it's overdrawn."

Inquiry Column

During the month we have supplied answers to the inquiries indicated below. Firms with whom we have not already communicated who hold any agency connection with the firms, or handle any of the lines mentioned in this section, are invited to furnish us with particulars so that our lists may be complete.

INFORMATION WANTED

J. Clayton & Co., Nottingham.—Name and address of agent wanted.

Philadelphia Lawn Mowers.—Name and address of agent wanted.

Pike Mfg. Co., Pike, N.H., U.S.A.—Name and address of agent wanted.

American Davies Tile Machine Co.—Name and address of agent wanted.

Sheriff Mfg. Co. (builders' hardware).—Name and address of agent wanted.

Sperry & Co., Birmingham (gas fittings).—Name and address of agent wanted.

Pratt & Bros., New York City, U.S.A.—Name and address of agents wanted.

Charles Lane & Sons Ltd., Leeds (nails).—Name and address of agent wanted.

American Handle Co., Jonesboro, Ark., U.S.A.—Name and address of agent wanted.

Wade & Stansfield, Sheffield (engineers' tools, etc.).—Name and address of agent wanted.

James Dunn & Co., London (bootmakers' inner soles).—Name and address of agents wanted.

Addis Brush Works, Hertford, England (brushware).—Name and address of agent wanted.

"Gumlypta" Disinfectant Powder.—Name and address of agent or firm holding stocks wanted.

J. & D. Smallwood, Birmingham (rules and levels).—Name and address of agent wanted.

E. Bliss & Co., London and elsewhere (power presses).—Name and address of agents wanted.

S. C. Salisbury Steel Novelty Works, New York City, U.S.A.—Name and address of agents wanted.

Metropolitan Galvanising Co., Wandsworth, London (nails).—Name and address of agent wanted.

Stewart-Skinner Co., New York, U.S.A. ("Never-rip" stitchers).—Name and address of agents wanted.

Scragg, Whitehead & Garrett (machinery for making drainage pipes).—Name and address of agents wanted.

Bush & Chipper, 47 Percival-street, Clerkenwell, London (glazier's diamonds).—Name and address of agent wanted.

INFORMATION SUPPLIED

Incubators.—Names and addresses of makers in Sydney supplied.

"Klinger" Water Gauges.—Name and address of agents supplied.

Cooke's Wire Nails.—Name and address of manufacturers supplied.

Coldwell Lawn Mowers.—Name and address of agents supplied.

"Evastrong" Glassware.—Name and address of manufacturers supplied.

Harrison Bros. & Howson, Sheffield.—Name and address of agent supplied.

"Little Hero" Bath Heater.—Name and address of manufacturers supplied.

"Hornsby" Plough Shares.—Name and address of agents in Melbourne supplied.

James Oxley, Sheffield (boot stretchers).—Name and address of agents supplied.

Millers Falls Co., Millers Falls, Mass., U.S.A.—Name and address of agents supplied.

American Handle Co., Jonesboro, Ark., U.S.A.—Name and address of agents supplied.

"Gumlypta" Liquid Disinfectant.—Name and address of agents in Melbourne supplied.

Thomas Green & Son Ltd., Leeds (lawn mowers).—Name and address of agents supplied.

George Barnsley & Sons, Sheffield (boot stretchers).—Name and address of agent supplied.

Ransomes, Sims & Jefferies Ltd., Ipswich (lawn mowers).—Name and address of agents supplied.

Oster Mfg. Co., Cleveland, Ohio, U.S.A. (stocks and dies).—Name and address of agent supplied.

Henry Disston & Sons Inc., Philadelphia, Pa., U.S.A. (saws).—Name and address of agents supplied.

Potato Sprayers.—Name and addresses of makers of "Doncaster" and "Bave-U" spraying pumps for potatoes supplied.

Kerb Petrol Pumps (known to many as "Bowers").—Names and addresses of manufacturers and agents in Melbourne supplied.

A Question of Customs Duty

A New Zealand firm (5/234) wish to know what duty is imposed on electric stoves imported into the Commonwealth of Australia.

A.—The general rate is 40 per cent. and the British preferential rate 27½ per cent. ad valorem.

LEGAL INQUIRY

Goods Stolen From a Railway Station

A Victorian subscriber (11/168) asks if the Railways Commissioners are liable for goods stolen after they reach the station to which they are consigned and before the consignees can take possession.

A.—In view of the provision of section 6 of the Railways Act we think that after goods have reached the station to which they are consigned and have been discharged from the trucks, the liability of the Railways Commissioners is only as warehousemen. This means that they do not insure the goods against loss, but are bound only to see that the goods are in proper custody and properly kept. They are responsible for the negligence of their servants if acting in the course of their employment or within the scope of their authority but not otherwise. If goods are lost or stolen, the onus is on the Commissioners to show that the loss did not happen in consequence of neglect by them to use such care and diligence as careful men would exercise in relation to their own property. If they show this they will escape liability, even if they cannot show how or when the loss occurred.

Sundry Credits

(By J. Knibb)

When, after the fire of a few years ago, the rebuilding of the Melbourne Town Hall had to be faced, the cost was put at £80,000. Estimates and Actualities "More likely to be £250,000," said one of the councillors. And he is more likely to be right than the others. It is true a contract was let for £126,500, but the "extras" have mounted up and at date of writing the work has cost the City Council £220,936, with more to come. Nor do the Melbourne people get a new Town Hall for their quarter million of money. They get a new roof over a larger hall, for an addition has been made to the old fabric, and the whole place has been remodelled internally. Outside you have the old building, with a difference; inside everything is new, with a fine new organ yet to come.

During his lifetime stories of eccentricity were told of Alexander Peacock, who recently died worth a great deal of money. A compatriot of Andrew Carnegie, he was taken up by that resolute Scot and soon became the iron-master's right hand man. After Peacock's death it was discovered that his love of the unusual had been with him to the end. He leaves five dollars to his widow "for reasons known to her," and not more than one hundred dollars to each of four children. To the youngest child, an unmarried daughter, goes the remainder of a huge estate said to approximate £3,000,000. A clause in the will provides that any beneficiary who contests the document is to be deprived of his or her legacy. Not much deprivation for some of them!

These parasites on the tree of commerce, as I consider the cash order companies, continue to flourish, and no legislative hand is reached out to stop them. The Cash Orders warnings of financiers that the system is bad and the protests of dealers who suffer from it seems to go for nothing. The much abused middleman, whatever his faults, is doing service. He brings parties together to the benefit of both, as well as of himself. But these cash order intermediaries render no real service, I maintain, only an apparent service to the impatient and improvident. They encourage extravagance. They come between buyer and seller and levy their tax on both. Parasites I call them. When noxious things appear on my rose trees I get out the spray pump. So with these market pests. They ought to be killed off.

Like many another I had been assuming that marine architecture on the mercantile or transport side had reached its maximum. For the individual ship, I mean. But no. At Belfast, we are told, Harland & Wolff Ltd. have laid down the keel of a steamer for the White Star Line which is to be somewhat bigger than the "Leviathan," and a good deal bigger than the "Majestic," the biggest things of the kind now afloat. This new vessel is to register 60,000 tons gross, to cost some £6,000,000 and to occupy three years in construction. "Prodeegious"! as Dominie Sampson would exclaim. Those gentlemen who control the Cunard Line are not indifferent to this move on the part of their trans-Atlantic rivals. They admit

securing competitive estimates for a new steamer of a size unspecified. Shipbuilders, I suppose, could go on increasing the size indefinitely, but what about docks and harbours and wharves?

The ship-building revival reported from Great Britain will be welcome news throughout the Empire. What the industry once was no one who in busy times has listened to the chatter of the automatic rivetters on the Clyde or the Tyne is likely to forget. But in more recent years this traditional department of the Mother Country's enterprise suffered terribly. American and Continental competition threatened to bring it to an end. In 1923-25 German and Dutch yards were building and repairing ships for British owners. It is so no longer, we are told. Capital and labour are co-operating to recapture the lost business, and the good sense of masters and men is having its reward. Within recent weeks British shipbuilders have secured contracts from Norway, Sweden, France, Spain, America, Canada, Argentina and Chile. Belfast, as well as Glasgow and the Tyne ports, is again humming with activity. Bravo! Push them afloat!

The development of this particular industry is truly amazing. If we went back to the days of wood and sail we would come to the little "Squirrel" of ten tons burden in which Sir Humphrey Gilbert went down some three hundred and fifty years ago. The stormy Atlantic swallowed her at a gulp in 1583. But we shall confine ourselves to ferric plates and steam power. The first iron steamer of consequence, so far as I know, was the "Great Britain," launched in 1843, less than a century ago. Her gross tonnage was 3270. The "Great Eastern," of the year 1858 and 18,915 gross tonnage, was much before her time. No other steamer of equal size was launched until 1903, when the "Cedric" of 21,073 tons took the water. Driven by paddles and screw the "Great Eastern" had a speed of 13 knots, whereas the "Cedric," of about the same length, was a twin-screw steamer rated at 17 knots. Now we have steamers up to 60,000 tons gross in bulk and 26 knots an hour in speed.

After journeying all over the United States, Sir Charles Higham contributed his impressions to "The Daily Mirror." This was the last of many visits and for the first time the visitor felt disappointed. Poverty and unemployment, he says, are more severe in America than in Great Britain. Feverish activity, hectic pleasure, and the future being mortgaged for present possession—these things impressed themselves upon his mind. He concludes with this warm word about his own country: "Sweet people of this fair island, yours is indeed the happy land of this world. The gods, I think, have changed their liking; go down on your knees to them, and thank them for giving you this England. We are masters of the world; kindly, courteous, slow sometimes, but honest, reliable, steady, moving on, but not moving out. The world is at your feet once more, my countrymen; take it, grasp your opportunity, praise your country, work for it, fight for it, as you once were willing to die for it. Argue as you will, it is still a land fit for heroes to live in. We have an inheritance, a stability and a sense of honour, which is the envy of the world, and none knows it more than those who live in what was, yesterday, God's Own Country."

Personal and Social

Valedictory

Mr. A. McGill, for many years foreman at Clyde Engineering Co. Ltd., Granville, Sydney, and an employee of the company for forty-five years, was entertained by employees of the company upon his retirement in September, and presented by the general manager (Mr. J. Davison) with a wallet of notes on behalf of the directors and employees.

From Adelaide to Sydney

Mr. C. A. M. West, secretary of the South Australian Commercial Travellers' and Warehousemen's Association, has been appointed secretary of the Commercial Travellers' Association of New South Wales in succession to Mr. H. S. Peisley. A native of Adelaide, and 38 years of age, Mr. West has had a varied business and managerial experience. Three years ago he was appointed to the position which he now vacates to the great regret of the membership. Mr. Peisley has become manager of the Hotel Sydney.

Sensitive Civics

Recently Councillor V. E. Hamilton, of the Sumner Borough Council, lost his seat in rather peculiar circumstances. Sumner is a suburb of Christchurch, New Zealand, and Mr. Hamilton is manager of Mason, Struthers & Co. Ltd., of that city. His firm secured a contract for certain supplies for the Borough Council of Sumner and the Government Auditor took exception to the payment of the account. When before the electors Mr. Hamilton had a majority of votes in Sumner itself, but was defeated by a Redcliffs candidate. Mr. Hamilton had been chairman of the finance committee of the council and in that position was responsible for considerable economies in expenditure.

Elected President

The new president of the Bureau of Steel Manufacturers of Australia is Mr. Cecil H. Hoskins, chairman of directors of Australian Iron & Steel



Mr. C. H. Hoskins

Ltd., whose works are in New South Wales. His father, Mr. Charles H. Hoskins, and his uncle, Mr. George J. H. Hoskins, trading successively as Hoskins Bros., G. & C. Hoskins Ltd., and Hoskins Iron & Steel Co. Ltd., acquired in 1908 the iron and steel manufacturing works which had been established at Lithgow some years before by Mr. William Sandford. The present Mr. Hoskins was brought up in the family business, on the engineering as well as on the financial or managerial side, and when his father died early in 1926 he succeeded to the position of chairman of directors. Since then the enlarged or amalgamated company, Australian Iron & Steel Ltd., has come into being and the first section of a new plant has been started at Port Kembla on the South Coast of New South Wales.

An Aged Ironmaster

Mr. William Sandford, whose name will always be associated with the iron industry of Australia, celebrated his eight-seventh birthday on September 26. He lives at Eastwood, one of the smaller suburbs of Sydney, and in the evening of life spends much time in his garden. A Devonshire man by birth, he came to Australia under engagement to Lysaghts (John Lysaght Ltd.), the galvanised iron manufacturers and before long began to look into the question of the local production of iron. By that time Mr. James Rutherford had established smelting works at Lithgow and had sunk, he said, £150,000 in the enterprise. Mr. Sandford was offered the plant and undertaking on lease with the option of purchase and before the first option of seven years expired he took over the whole thing for £70,000. That occurred about 1886 and before 1908, when he left Lithgow, he had erected a modern blast furnace and various steel and iron rolling mills. The enlarged industry required more capital than he could raise to advantage at the time and like his predecessor he was obliged to let it go to others.

Parting Present

After thirty-three years' service with McPherson's Pty. Ltd. of Melbourne, Mr. E. Nantes is retiring. The directors and departmental managers entertained him to dinner at Scott's Hotel on September 28, and on their behalf Sir William McPherson made a presentation to the guest, accompanied by every good wish for the years that remain.

Charitable Ball

The second annual ball of the Australian Association of British Manufacturers in Sydney took place on September 26 at the Ambassadors, the proceeds of which will benefit the funds of the Sydney Hospital. About three hundred members of the association and their friends attended and the success of the evening was largely due to the work of the committee. Luck wristlets, for which three prizes were awarded were sold, and there were also novelty and old fashioned dances.

Death of Mr. Charles Day

Mr. Charles Day, whose death occurred on September 4 last, was the founder of the business carried on at 349-51 Flinders-lane, Melbourne, by Chas. Day & Co. Pty. Ltd., manufacturers' agents, importers and general merchants. Before establishing this firm and business the late Mr. Day was the Australian representative of A. Schutze & Co., Hamburg, and in that capacity gained a wide circle of friends. The agencies held include several English pottery firms and the business will be continued by others.

The Ups and Downs.

"Yes, I have two men working for me," said a hardware dealer the other day. "They are equally good, if good is the word. One can't hold himself down and the other can't keep himself up, if you know what I mean."

I knew what he meant and I watched those two fellows after that. I saw that their boss was right. One was overdoing everything. He was always on the jump, but he jumped too far every time. The other was all the time sagging back until he was a drag on the business. Someone else must constantly be pulling him along, ought to be some way of getting a better division of effort between the two.

Novelties and New Samples

New Thermos Flasks

S. Hoffnung & Co. Ltd., of 163 Pitt-street, Sydney, are showing a thermos flask, a feature being that the glass refill is strong enough to stand rough treatment and can be dropped on the floor or even hit sharply on the table without breaking. The price has been cut below that of other makes.

Aluminium Shoes For Race Horses

Mr. Albert Adams, 277 Clarence-street, Sydney, has been appointed Australian agent for Wood's British made "Alumite" plates for race horses. As the name implies these plates are made from an aluminium alloy and while retaining their lightness, are nevertheless hard and will not spread. Mr. Adams is carrying stocks in all sizes.

Household Scales

Lewis & Carmichael Ltd., of 277 Clarence-street, Sydney, are showing samples of household scales whose main feature is that they can be retailed at a figure to meet the competition of the city price cutting stores. The scales are of German make and appear to be well made and wear resisting. They can be had to weigh up to 25 and 28 lb.

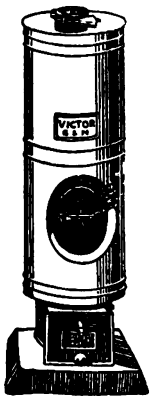
New Model Shot Gun

Budden, Cruttenden & Neale Ltd., 189 Clarence-street, Sydney, are showing on behalf of Louis de Brus & Co., Liege, Belgium, a new model D.B.B.L. shot gun, No. H22 in 12 gauge. This is a hammerless gun, English hardened and nitro proved with Anson action and treble Greener cross bolt and comes from the manufacturers with the reputation of being an improvement on their popular H.20. The stock is of selected walnut, neatly engraved, and is supplied with a patent snap fore-end.

Hot Water at Low Cost

Although the sale of hot water boilers and systems has been more or less exclusively handled by specialised houses, much business has of late been done through hardware merchants and general dealers.

A useful type of hot water boiler is shown by Gardner & Naylor Pty. Ltd., of 34 Queen-street, Melbourne. This is the "Victor," a combination boiler and storage cylinder in one complete unit. It is of the slow combustion type, made of copper throughout, heavily insulated, and fitted with rocking and tilting firebars. The fuel used may be either wood or coke. These special features have contributed largely to the success of the "Victor," which provides a hot water service simple and inexpensive in use. It is thus suited to practically all places, large and small. The appearance is smart and compact, size 50 being 5 ft. high and 21 in. wide. It is made in 20, 30, 40, 50 and 60 gallons, and ensures a supply of hot water at any time, day or night. The "Victor" is a handy line which might well be considered by hardware stores. Descriptive literature will be sent by the manufacturers on request.



Garden Tools and Casseroles

Mr. Oliver M. Tibbitts, of Sydney and Melbourne, agent for John Brown & Sons (Halesowen) Ltd., advises that this firm have added to their works a plant for the manufacture of handles for all their tools. They are also supplying shovels, spades and forks fitted with the popular Y handles, a type which is being made to a specially good design. A malleable iron shoe fits over the wood grip, fastening securely to the shaft and making an extremely strong and reliable job. They will continue to make their ordinary D handle as previously, buyers specifying the Y pattern when required. The price in either type remains the same.

Anstey & Wilson Ltd., also represented by Mr. Tibbitts, notify the production of a new casserole frame which promises to find a ready sale. The design is attractive, and the price represents exceptionally good value. This company have now issued their new catalogue copies of which may be obtained on request from the Sydney or Melbourne offices of the representative.

Sheffield Saws

Abraham Ashton & Sons Ltd., of Sheffield, have been making saws and other tools since 1848. Their "Sharp Tooth" brand is well known in many parts of the world. During the Great War the works were supplying the war offices with handsaws in large quantities.

The range of handsaws is complete, including, as it does every possible grade, from the finest carpenter's and cabinet-makers' tools to the household patterns. A stainless steel saw is supplied in two patterns—hollow back and straight back—which should be a useful line.

For the country user a range of "Farmer's" hand saws is catalogued. A peg tooth type, No. 756, is used in place of the usual one-man saw. It has teeth suitable for rough timber and is made in 30 in. size. Others in this section are the "Lightning" tooth, made in various patterns.

Back saws are in a good selection and in different grades to suit buyers, while the list is completed with bow and compass saws, as well as nests of saws containing three blades in one handle. Among special purpose tools are pruning saws of all shapes, pruning sets, comprising a useful outfit with interchangeable handles, cane knives, and cross cut and circular saws.

The representatives are Whitelaw & Wood Pty. Ltd., of 312 Flinders-street, Melbourne.

Vulcanised Rubber Belting

Barnet Glass Rubber Co. Ltd., or 289-99 Swanston-street, Melbourne, with branches elsewhere throughout Australia and New Zealand, are manufacturers of vulcanised rubber belting for power transmission. It is designed especially for main drives, dynamos, and machine shop work generally, as well as for agricultural, sawmilling and similar outside drives.

Before marketing this type of belting the company carried out extensive research work over a number of years. The construction is of specially woven duck, impregnated with friction rubber of a high quality. The duck is made from long staple cotton, the weave being a process which ensures pliability, and yet enables the material to withstand a great tensile strain. Care has been taken to select a duck of heavy weight, far heavier than is usually considered necessary for the purpose, the

company claiming that this permits a guarantee of service which answers every demand.

A separate process during manufacture is the careful stretching of each length of belting, with the object of minimising trouble in this direction when in use. Another source of trouble with this class of transmission is the tendency to slip which is the bugbear of the engineer. This can be overcome if the surface of the belt possesses a "grip," a quality of texture which rubber belts, when correctly made, should provide. As compared with leather, it is stated that these belts will transmit from 30 per cent. to 40 per cent. more power per given arc of contact. A 3-ply Barnet Glass belt is said to equal light single leather, four-ply ordinary single leather, or six-ply double leather.

Other features claimed for this type of belting are smooth and even running on any drive, perfect pliability, allowing the belt to conform easily to unusual pulley conditions, and positively uniform thickness, width and weight in every foot.

The firm publish interesting data and specifications to users, enabling the best results to be obtained in use. Vulcanised rubber belting is supplied in widths from 1 in. to 14 in., and in plies varying from three to eight according to the purpose for which it is required.

Petrol Economizer for Motorists

Several advantages are claimed for "Firezone," a motor lubricant distributed by Mr. P. J. Foley, of 237 Queen-street, Melbourne.

It was recognised that the only way to perfectly apply lubrication to the upper part of an automobile engine, or the combustion chamber, is by way of the fuel. This lubricant must be of such a nature that it does not break down under the great heat caused by the explosion.

"Firezone" oil has been devised to meet this very problem. A small quantity is introduced with the petrol, and this, it is claimed, finds its way through the system, lubricating the upper cylinder walls, valves and stems, and greatly minimising friction. The results accruing after a short experience are: higher fuel mileage, greater power, and in fact all the benefits which follow more perfect lubrication.

The new lubricant is sold in half and one pint, one quart and one and four gallon tins. Half a pint is said to be sufficient for twenty gallons of fuel.

Ice Stove and Kerosene Lamp

The Delaygue system provides a great convenience for country dwellers. This "ice stove" as it is called is not an ordinary ice chest, but is maintained at a temperature which is colder than ice. It not only keeps food fresh and sweet, but actually makes ice for table use, or freezes desserts. Whereas with melting ice the temperature is gradually rising, producing a moist atmosphere, the ice stove ensures a constantly cold temperature and a dry atmosphere. As experts agree that food should be kept under 50 deg. Fahr., to ensure purity it is rightly claimed that an appliance such as this is a most desirable convenience in the home. The operation is simple and economical.

The sole agent for Victoria is Mr. T. W. Sands, of 372 Lonsdale-street, Melbourne, C.1., where the device may be seen at work.

Mr. Sands is also distributor of the "Ironclad" kerosene lamp, an incandescent type which has proved its worth to very many users. An immense advantage is obtained by the new extra air generator. By this means 100 c.p. pure white light is delivered for eight hours on a pint of kerosene, due to the burning of 4 per cent. of oil with 96 per cent. of air.

N.S.W. Country Traders

The twentyfifth annual general meeting of the Country Traders' Association of New South Wales was held in Sydney, on September 19, when Mr. G. A. Nankervis (Tamworth) was elected president for the twenty-second year in succession. Messrs. A. Shackel, of Scone; R. E. A. Kitchen, of Broken Hill; T. A. McPherson, of Curlewis and Douglas A. Thompson, of Albury, are the vice-presidents, and Mr. Owen J. Howard, of Parkes, the honorary treasurer, with the following committee:—Messrs. C. F. Hayward (Manilla); W. G. Bryce (Fig Tree); T. Cameron (Wellington); R. W. T. D'Argeavel (Cessnock); G. H. Coughlan (Singleton); W. Curtis (Armidale); W. L. Bayley (Broken Hill); E. Kerfoot (Wagga); J. H. Hitchen (Gilgandra); K. K. Kellett (Mudgee); J. Stephenson (Kurri); W. Lord (Berry); E. K. Pepper (Inverell); R. Richardson (Woonona); W. Waters (Wollongong); C. Waugh (Goulburn); C. B. Scott (Whitton); L. Trainor (Yass); W. F. Weedon (Young); and R. N. L. Fletcher (Broken Hill).

The annual report stated that a defaulters' list had been distributed among those who had subscribed to it, and although the list should be at least four times its size the committee hoped it would serve a useful purpose. A list contributed to by the majority of members would be invaluable. Efforts to form a Federal united council of retailers had failed mainly owing to the attitude of the Victorian and South Australian United Associations. The committee regretted that the effort to influence legislation to abolish coupons had so far been unsuccessful, but further efforts were to be made, the committee being more than ever convinced that coupons should be abolished. The committee realised that to a certain extent the cash order and time payment system was legitimate, and the committee recorded its "alarm and protest concerning the extravagant and dangerous extension of the principle that has taken place during the past year." The committee considered that the whole matter demanded the fullest and earliest investigation by the Government. During the year members had been written to regarding a screen story which had for its object the influencing of people to buy in their own town and thus stem the flow of money to the city. A number of favourable replies had been received, but the matter would require a good deal of organisation before finality could be reached. The matter was worthy of every effort on the part of members, serving as it would to build up prosperity in the country towns. The finances of the Association continued to be satisfactory, especially in view of the extraordinary expenditure incurred in connection with the re-furnishing of "Country Traders' House." The income for the year was £1413/19/2, and the expenditure £1524/4/11, the balance at July 31, 1928, being £1308. The report and balance sheet were adopted.

"Serving" and "Service"

Counter salesmanship in this country has not reached a very high standard. It is for the most part looked upon as unskilled labour, and for the most part it is unskilled. But it ought not to be, and it need not be, says a writer in an English hardware paper.

Although I have no wish to decry British methods of business, I must say that here again we might take a lesson or two from America. There the art of shopkeeping is studied in its every detail as a profession. Here too often our shopkeeping is a makeshift. The reason is, I think, that we have a traditional and quite unreasonable disrespect for "shop-keepers." In America shopkeepers are regarded as being all in the great commerce and of it, and dignity and skill are not considered incompatible with serving behind a counter. Which, of course, is a perfectly sensible view to take of the matter.

News from Abroad

Locomotives For South Africa

It is officially announced that the Railway Board has decided to place a contract for thirty-six Class 19a locomotives, amounting to £201,330, with the Swiss Locomotive Co., Winterthur, Switzerland. Tenders were also called for ten articulated locomotives, but the Board decided to reduce the number to two, and placed the order with Beyer, Peacock & Co. Ltd., Gorton, Manchester. The contract amounts to £29,000.—"Industrial and Commercial, South Africa."

Big Railway Bridge

One of the longest bridges ever constructed in South Africa is shortly to be built across the Umfolozi River. On two previous occasions the railway bridge across this river has been washed away. This time the Railway Administration engineers have taken special precautions in designing the bridge. A new site has been chosen, necessitating a deviation of the railway, and the construction of a tunnel through the mountain side. The total cost is estimated at £260,000.—"Industrial and Commercial, South Africa."

Swedish Doctor Invents New Cream Separator

A report from Sweden states that a young physician in the city of Lund, while experimenting with a new blood reaction test, has designed a centrifugal machine for using the method. He now claims that his new apparatus can be used with very high efficiency as a cream separator, and that it will revolutionise the separator and dairy industries. Not only can the fat content of the milk be extracted far more completely than with separators of standard design, but it is possible to obtain butter directly from the milk without any intermediate processes.

New Source of Rubber

In Northern Mexico the exploitation of the guayule (pronounced gwa-yu-le) shrub for the production of crude rubber has become an established industry. Experiments with this plant were begun in the late nineties by Dr. Adolfo Marx and in 1903 he erected a factory at Saltillo for the extraction of the rubber. Some years later the rubber trade of the United States and Europe began to recognise the new product. Now there are several other factories in Mexico and also in Texas. Whereas it is estimated that between 1905 and 1910 some 132,000 tons of guayule rubber were shipped out of Mexico, in 1926 one company alone sold about 3600 tons. This company, the Inter-continental Rubber Co., has spent a great deal of money in experimental work as well as in actual production. One of the advantages claimed for the plant is that it can be cultivated on ground worthless for stock-raising or ordinary agricultural purposes, and with the attention now being devoted to it a great deal of Mexican waste land has acquired a considerable value.

Britain and Razor Blades

It is well known that American manufacturers were first in the field with the supply of safety razors and the blades required therefor. Britishers who preferred this latest shaving device had perforce to use American blades. It is so no longer. Within recent years British manufacturers have gone into the business and captured a large part of the trade. In a recent issue of "The Hardware Trade Journal" the story is told of the success at-

tending the efforts of one of these firms, W. J. Myatt & Co. Ltd., of Birmingham. A few years ago they took up in earnest the manufacture of such articles, and quite recently in open competition with other British and foreign makers they were awarded the contract for supplying H.M. Office of Works with safety razors and blades. Their "Daymark" blades are "something different." They are double-marked for the days of the week so that taken in order the edge you use to-day will not be used to-morrow and each blade will secure a periodic rest to the lengthening of its working life. It is said that the sales of this British brand are five times greater now than they were two short years ago.

Canadian Mammoth Grain Elevator

With a total capacity of 6,900,000 bushels, "Pool Terminal, No. 7," the most up-to-date and the fastest terminal grain elevator on the North American Continent, has been put under construction at Port Arthur, at the head of the Great Lakes. It belongs to the Saskatchewan section of the Canadian Wheat Pool, and will be in operation by October 15.

During the rush season, when millions of bushels of grain bear down from the wheatfields upon the Lake ports, en route to the markets of the world, the new terminal will be able to empty as many as 500 box-cars of grain a day, and at the same time ship out into the Lake grain-boats at the rate of 150,000 bushels an hour.

Itself a quarter of a mile in length, the elevator will have track accommodation for 225 box-cars at one time, while internal equipment will include eleven 150,000 lb. scales, 52 grain cleaners, 34,000 ft. of bolt conveyors and a drier that will dry 1000 bushels an hour.

Completion of "Pool Elevator No. 7" will give the Saskatchewan section of Canada's Wheat Pool a total elevator capacity of more than 50,000,000 bushels for the 1928-9 crop.

Production of Lead

On September 17 representatives of the lead producing fields of the whole world met in London to discuss a suggested restriction of output. Broken Hill interests were represented by Mr. W. S. Robinson. The Broken Hill Associated Smelters Pty. Ltd. have been advised that the meeting considered three things: (1) the preparation of complete statistical information regarding the world's production and consumption of lead for the guidance of producers; (2) the present position of stocks and output and (3) the steps that ought to be taken to regulate production to meet any falling-off in consumption. Regarding the first of these, arrangements were made for the collection of complete statistical records. Stocks on examination were found to be inconsiderable. Consumption seems to be keeping pace with the world's reduced production and consequently nothing is called for at present in the way of limiting output. Arrangements were made, however, to provide against any increase in production and in case of urgent necessity to curtail it.

The domestic production of the United States of America being insufficient for her needs, that country is unaffected by the resolutions come to at this meeting.

Australia is affected because the Broken Hill mines still produce a good deal of lead and most of this is exported to Great Britain from year to year. It is true the low price of the metal forced some of the smaller companies to close down some time ago, but at least four are still in operation. The Broken Hill Associated Smelters Pty. Ltd. have smelting works at Port Pirie, in South Australia, and here the entire output of the Barrier mines is dealt with.

Publications Received

Electric Stoves

A folder received from the New Zealand Stove Co. Ltd., of 15 Sturdee-street, Wellington, shows that they are makers of electric ranges and other appliances. Their "Dominion" range is offered in various finishes with the choice of either an aluminium lined oven or blue porcelain enamel on "Armco" iron. It occupies a floor space of 26 in. x 22 in. with a height to the cooking top of 36 in. The manager of the company is Mr. M. F. Judd.

Metalworking Machinery

From Henry Pels, of 32-38 Osnaburgh-street, London, N.W.1, we have received a sectional catalogue devoted to punches, croppers and plate and joist shears for hand power. The illustrations show the general design of the various machines listed, the manufacturers being free to incorporate any improvements that may be made from time to time. They are well-known in this particular field, power-driven as well as hand machines being produced for the markets of the world.

Engineering Leaflets

Metropolitan-Vickers Australia Pty. Ltd., with works at Auburn, New South Wales, and South Melbourne, Victoria, issue descriptive leaflets from time to time in connection with their work. Nos. 67 to 70, now before us, deal respectively with "Industrial Substation Switchgear," "Metalclad Switchgear," "Heavy-Duty Oil Circuit Breakers," and "Electric Traction in Australia." All carry appropriate illustrations.

The Engineering Supply Co. of Australia Ltd., 120 Edward-street, Brisbane, are the company's agents in Queensland, while Mr. R. L. Milligan, of 64 Collins-street, Hobart, represents them in Tasmania.

Westinghouse Ideals

"To ease man's labours—to increase man's comfort—to make man safer, happier, and more contented—this is the purpose behind the great international institution of Westinghouse." So run the opening words of a folder issued by the Westinghouse Electric International Co. With head office at 150 Broadway, New York City, main works at East Pittsburgh, Pa., and European office at 2 Norfolk-street, Strand, London, W.C., the company give the names and addresses of their "exclusive distributors" in forty-three different countries, beginning with Anglo-Egyptian Soudan and ending with Venezuela. The Australian Westinghouse Electric Co. Ltd., of Sydney and Melbourne, are the Australian agents, while in New Zealand Turnbull & Jones Ltd. handle all lines and E. J. Hyams Ltd. lamps and electric ranges.

S.M.S. Lifts

A leaflet received from Smith, Major & Stevens Ltd., of Northampton, England, recommends their S.M.S. lifts, which are of British design and workmanship throughout and may be had for operation by electricity, water, belt or hand power. They are built with a view to safety and reliability rather than to cheapness, but at the same time make for economy in working. Agents are found in most countries overseas, including Australia and New Zealand. Major, Stevens & Coates Ltd., of 14-16 O'Connor-street, Chippendale, Sydney, and Exton House, Queen-street, Brisbane, are agents in New South Wales and Queensland; Crossle, Scott & Duff, of 360 Collins-street, Melbourne, in Victoria; and Mr. W. C. Whitehill, of Raneleigh-street (off Waymouth-street), Adelaide, in South Australia; while H. Moulton Ltd., of 272 Willis-street, Wellington, and the Electric Construction Co., of 52 Fort-street, Auckland, are the New Zealand agents.

Federation of British Industries

Now in its eighth annual edition the "F.B.I. Register of British Manufacturers" for 1928-29 is a well-bound volume of 666 pages, 9½ x 7. A map of Great Britain, a portrait of the president for the current year (Sir G. Rowland Blades Bt., G.B.E., M.P.), and information about the Federation itself—its office-bearers and various committees, its offices and objects—prepare the way for the main or "directory" features. These, it will be understood, are confined to the membership of the Federation, and are classified into five different sections marked off from each other by descriptive tabs. Taken in order the divisions are (1) the products and/or services of the various component firms, an alphabetised list running from "abattoir plant" to "zinc sulphide"; (2) an alphabetical list of the members, showing their addresses and what they stand for in the industrial field; (3) a list of trade associations now found in British industry, with the secretary's name and address; (4) an alphabetical list of brands from "A.1." to "Zondo" owned by the members of the Federation, and (5) a closing section of advertisements from individual members, many of them beautifully presented in colour. Seeing that the Federation includes hundreds of the largest and best-known manufacturers of the United Kingdom, the volume has no mean value as a buyers' guide.

The head office of the Federation is at 39 St. James's-street, London, S.W.1., with branches at all the large centres in England and Scotland. In Australia the representatives are the Australian Association of British Manufacturers and their representatives, 372 Flinders-lane, Melbourne, and elsewhere, while Mr. R. H. Butler, of Collins House, Collins-street, Melbourne, acts as correspondent.

A Farm Smithy

In a booklet bearing this title is told the story of the late Hugh Victor McKay, C.B.E., and the "Sunshine" industry. A remarkable story it is "a record of vision and pluck" as the little volume has it. One of twelve children born to a small farmer at Drummartin, in Victoria, the late Mr. McKay grew up as a farmer, not as a mechanic, and as he participated in the harvesting operations of those days the youth felt that "there must be a better way of doing the job." With the sympathetic approval of his father he set out to discover this "better way," erected for that purpose a rough workshop or smithy, and in 1884 the first complete harvester was pulled into the wheatfield at the end of the season. To the delight of the young inventor it stripped the grain from the stalks, threshed, cleaned, and ran it into the bags. Then came difficulties of another kind—of making the machines and placing them on the market. Established manufacturers were as shy of the new machine as were farmers generally speaking, and after trying some of them Mr. McKay went into the business himself. A factory was established at Ballarat in 1894 for the production of the complete harvester, but other implements were added to the output as the years passed, and in 1906 the works were removed to Sunshine, near Melbourne. Here the progress has been even more remarkable, and when the founder died in 1926 a full line of farm implements and several other lines were being turned out from a site covering seventy acres surrounded by a little town in which the employees occupy comfortable homes. Alongside the large modern works of H. V. McKay Pty. Ltd., has been carefully re-erected the "farm smithy" from Drummartin in which the first harvester was put together forty-four years ago. Including a coloured frontispiece of the said smithy, the little volume has been produced on the spot. It is a product of the Sunshine Harvester Press.

Interstate General News

The Harbour Bridge

One of the two creeper cranes by whose aid the great central span of the bridge across Sydney Harbour will be erected has been placed in position. This is on the Dawes Point or city side of the water to be spanned and weighs about 500 tons. A similar crane will be placed on the other side and between them they will raise the structural material into its place and follow it out as it is erected until a meeting is effected in the centre.

Tools of Trade in Bankruptcy

In New Zealand recently a question arose regarding the tools which a tradesman might fairly withhold from his assets in bankruptcy. The bankrupt was a plumber and the official assignee impounded as stock certain vices and stocks and dies. His solicitor pointed out that without these tools the bankrupt could not do work for himself or expect to get work from others. While large firms might be able to supply their employees with such tools, small firms would not. Their workmen had to bring their own. A solicitor's law books and a business man's office would be regarded as tools of trade. Eventually it was agreed that the tools in dispute came within this category.

"Rubberhide" Soles For Footwear

To turn to practical account a patented invention Rubberhide Products Ltd. have been formed in Tasmania and a factory was opened in Clyde-street, Hobart, early in September. As now set going the plant has a capacity of four gross of boot soles in a day of eight hours, but room remains for extension when that number is exceeded. Raw rubber is put into aluminium moulds in sole form, heated, pressed, vulcanised and treated with a compound the subject of the patent rights. These soles will be sold to boot-makers and repairers—not to the general public. The promoters maintain that the soles wear well and are no more slippery than leather. Just how they compare in price is not stated. Tasmanian shoemakers are said to be favourably impressed with the new article, and efforts will be made to push their sale in other parts of the Commonwealth.

Australian Engineering Standards

The Australian Commonwealth Engineering Standards Association announces that the following Australian Standard Specifications, which were issued in tentative form for a period of twelve months, are now about to be revised, prior to issue as Australian Standards:—

- No. C. 34—1927. T.—Electrical performance of industrial electric motors and generators with Class A. installation.
- No. C. 39—1927. T.—Electricity meters.
- No. C. 41—1927. T.—Hard-drawn copper stranded circular conductors for overhead power transmission purposes.

Nos. E. 13 to 15—1927. T.—Railway rolling stock material: locomotive tyres, carriage, wagon and tender tyres, weldless steel angle rings.

Criticism of the above Specifications, and suggestions for their improvement are invited and should be forwarded to the headquarters of the association, 16 College-street, Sydney, not later than October 31, 1928.

Stewart's of Wellington

An evening paper recently told the story of the development of one of the oldest business houses in the New Zealand capital, Stewart Hardware Ltd., as it now is. Founded sixty-three years ago the firm have witnessed many changes—in personnel, in situation and housing and especially in the nature of the business done. The emphasis is now on hardware, with many allied lines on the shelves. But it was not always so. A sawmill at the first, handling and fashioning much of the timber of which early Wellington was built, the business has changed with the changing situation. Fear of earthquakes no longer deter people from building in brick and what was taken up as a secondary item in the stock has now become primary.

Two Scotsmen, Mr. Robert Greenfield and Mr. James Stewart, began the business as Greenfield & Stewart. When Mr. Greenfield retired Mr. Charles Stewart joined his older brother, together with Mr. James Hutchen, who is still alive. Various building lines were gradually added to timber and when Mr. James Stewart died the firm was converted into a limited liability company—the Stewart Timber, Glass and Hardware Co. Ltd. So it remained until April last, when Stewart Hardware Ltd. was registered, the subscribers being C. S. Ballingall, R. P. Stewart, A. M. Anderson, J. C. S. Ballingall, J. Hutchen, J. P. Hutchen, M. G. Miller and C. L. Anderson.

Meantime great improvements have been carried out at the company's headquarters in Courtenay-place, and various new departments have been added to the business. The bold three storey frontage provides seventeen fine show windows, each devoted to a different line of stock. Tiled hearths and carpets are among the new lines which the company are now featuring. In remodelling the warehouse they had the assistance of Mr. C. Holder, formerly of Briscoe & Co. Ltd., and Mason, Stuthers & Co. Ltd., Auckland, who is now the general manager.

Psychology in Industry

At a meeting of the Christchurch (N.Z.) Hardware Association, presided over by Mr. G. H. Congreve, Professor J. Shelley gave an interesting lecture on Psychology in relation to industry.

The lecturer said that whereas the main feature of the nineteenth century had been the mastering of machinery by man that of the twentieth century would be the mastering of man by himself so that he might become a perfect piece of machinery.

There were various points in which psychology could be applied to industry. The first of these was the direct relation of the man to his job while even more important was the selection of the right man for each particular type of work.

Another thing that the psychologist had to consider was the best method of arranging the conditions between employer and the employee.

Professor Shelley described the method of making a motion study of any particular process, and showed that by this method had been discovered the fact that in every one of our every-day actions there were a vast number of unnecessary movements, by the elimination of which it was possible to increase the efficiency of the workman.

The lecturer dealt then with the question of fatigue in connection with the maximum efficiency of

the workman. The nervous system was like an electric current and fatigue caused products which acted as a stoppage in the current. Rest removed these blockages, but if the rest were too short the removal would not be complete. Working long hours over a period resulted in less work being done than if shorter hours were the rule. There were many other factors in the causing of fatigue than actual energy expended, and important factors were imperfect lighting, too much noise and too high a temperature.

Concluding, the lecturer dealt with the important factor in industry of the selection of the right man for the right job.

At the conclusion of the address, a hearty vote of thanks, proposed by Mr. W. Morley and seconded by Mr. A. M. West, was carried by acclamation.

The third and last lecture of the series is set down for December 8, when Mr. A. Owen Wilkinson will speak of "Accountancy as Applied to the Hardware Trade."

Notes From Canterbury, N.Z.

The outstanding features of the past week in Christchurch have been the doings of the airmen who successfully crossed the Tasman Sea from Australia to New Zealand, and the visit of the New South Wales Rugby players to Christchurch for the third test match, which they won. Following his longer flight from Western America to Australia, Captain Kingsford Smith (with three companions) left Sydney for New Zealand and in spite of adverse weather conditions this second journey was accomplished with complete success.

Two big loans for Christchurch and neighbourhood have been sanctioned. One is the Waimakariri River Trust's loan of £100,000 to carry out works in connection with flood protection. This loan has been approved by the Government Loans Board, but the proposals have next to be submitted to the ratepayers. The other loan is the Christchurch City Council's big roading scheme of £220,000. The idea is to make a thorough job of the roads in the city and suburbs instead of tinkering and patching up as required. It is estimated that this comprehensive scheme will be very much cheaper and in every way more satisfactory.

The necessary plant for the Christchurch City Council's roading scheme has been ordered by cable and actual operations will start, it is expected, towards the end of the year or early in 1929. The re-construction will be concrete base with asphaltic concrete carpet. The first bridge to be re-constructed will be the Carlton, which will be of the concrete girder type with spandril ends.

There is still a good deal of unemployment about, registrations yesterday numbering 44, including 33 married men. Relief depots are dispensing help to urgent needy cases. The beginning of the roading scheme mentioned above should very considerably reduce unemployment.

The City River Boulevard Scheme is progressing steadily. This is absorbing many of the unemployed and citizens' contributions are subsidised £1 for £1 by both the Government and the City Council, so that £100 given represents £300 spent on labour.

Satisfactory progress continues to be made with the electrification of the Christchurch-Lyttelton railway line, the last section of overhead equipment having been put up during the week-end in the Christchurch Station yard. The building of the electrical substation is being proceeded with at Woolston and it should not be long before it is ready for use. Next month three of the six electric locomotives to be operated on the line are due to arrive in Christchurch.

Christchurch merchants are interested in the Government's scheme of rural credits. As a result of recent legislation a Rural Inter-mediate Credits Board has been set up in order to make advances to dairy farmers, fruit growers and others cheaper and easier.

In spite of much protest from many quarters the Christchurch City Council seem determined to go on with their scheme to build an elaborate rest room and conveniences in Cathedral Square opposite the Anglican Cathedral. The daily papers refer to the proposal as turning Cathedral Square into "Lavatory Square." Plans for the proposed alterations are now on view.

Trade of the Commonwealth

The quarterly summary of Australian Statistics (June, 1928) gives the value of the principal articles of merchandise imported during the June quarter, 1927 and 1928, and during the financial years, 1926-27 and 1927-28. Following are the lines of direct interest to our readers:—

	June Quarter		Year	
	1927	1928	1926-27	1927-28
	£	£	£	£
Cordage and Twines (excluding Metal Cordage)	42,010	35,115	240,672	252,495
Fats and Waxes, etc.	68,587	53,198	268,352	256,926
Oils—				
Kerosene	384,078	389,321	1,264,257	1,036,425
Linseed	20,091	19,468	80,860	89,477
Lubricating (Mineral)	308,169	238,331	1,153,357	937,041
Petroleum Spirit	1,708,986	1,589,155	6,708,670	6,194,842
Turpentine	22,523	8,718	158,298	185,842
Other	348,933	314,650	1,353,996	1,293,085
Electrical Machinery and Appliances—				
Batteries and Accumulators	226,597	161,238	867,232	728,350
Cable and Wire, covered	334,324	418,675	1,679,972	1,721,265
Dynamo Electric Machines	235,378	218,097	1,040,851	952,398
Lamps, Filament, for lighting and heating	191,274	133,716	614,794	575,343
Implements & Machinery (Agricultural, Horticultural, etc.)	106,951	77,837	722,094	691,078
Metal-working Machinery	141,087	109,314	599,252	510,101
Motive-power Machinery (except electric)	689,335	727,205	2,518,507	2,727,583
Printing Machinery	150,187	130,697	546,418	482,522
Sewing Machines	134,020	123,924	606,587	549,589
Yarn-making and Textile-making Machinery	128,082	78,864	527,978	462,947
Other Machines and Machinery	899,684	876,179	3,683,883	3,657,006
Alloys	82,891	56,849	381,573	283,328
Bolts & Nuts, Rivets and Washers	72,882	55,987	316,745	265,116
Iron and Steel—				
Bars, Rods, Hoop, Ingots, etc.	582,098	179,011	1,329,402	1,115,749
Beams, Channels, Girders, Joists, etc.	137,217	77,556	289,164	473,097
Pig and Scrap	20,984	12,104	69,584	73,064
Pipes and Tubes	481,898	384,852	1,691,954	1,554,446
Plates and Sheet—				
Galv.—Corrugated	489,612	240,587	1,745,286	1,692,529
Galv.—Flat	204,960	141,015	580,258	623,726
Plain	500,783	208,422	1,015,943	1,173,141
Tinned	373,609	258,657	1,377,215	1,209,928
Rails, Fishplates, Fishbolts, etc.	30,050	78,821	82,533	298,935
Wire	125,414	156,886	600,173	506,643
Lamps & Lampware	156,975	113,434	605,981	444,067
Plated Ware and Cutlery	147,953	155,100	984,835	820,139
Tools of Trade (not being machines)	271,034	212,428	1,257,031	1,056,353
Other Metals and Metal Manufactures	1,173,143	985,714	4,741,581	4,238,490
Cement (Portland)	15,564	19,131	65,349	73,572
Crockery and other Household Ware	176,515	184,257	766,157	747,340

Glass and Glassware	274,730	228,919	1,301,772	1,218,671
Other Earthenware, Cements, China & Stoneware	127,738	84,292	477,369	382,526
Brushware— Vacuum Cleaners (household)	111,474	48,256	299,174	205,772
Other	52,977	44,078	299,407	245,576
Grand Total	£ 38,515,089	£ 31,813,513	£ 164,716,594	£ 148,116,549

Australian Association of British Manufacturers

The annual general meeting of the Australian Association of British Manufacturers and their representatives was held at the board room, 372 Flinders-lane, Melbourne, on August 31, when the retiring president (Mr. R. W. Knox) occupied the chair.

In moving the adoption of the report and statement of accounts for the year ended December 31 last, the chairman explained that work in connection with the British Trade Exhibition had made it difficult to hold the annual meeting at an earlier date. He went on to say that while the preference given to goods of British origin was much appreciated such preference was nullified in some instances by the fact that the high level of the duties made trade extremely difficult and sometimes impossible. It was encouraging to know that the appointment of an expert to review the tariff and its economic effects was contemplated by the Federal Ministry, and such a proposal would have their heartiest support. Between the Association and the Tariff Board the most harmonious relations had always obtained. Among British manufacturers greater confidence for the future was now in evidence, but ampler knowledge of the possibilities of the Australian market was still needed on their part. The Association was in a position to furnish such manufacturers with reports or reviews of any section of Australian trade.

Mr. H. L. Setchell, H.M. Trade Commissioner, briefly addressed the meeting. He apologised for the absence of the Senior Trade Commissioner (Mr. R. W. Dalton) and expressed appreciation of the fact that trade associations in the United Kingdom were now linking up with the Australian Association.

For the year 1928-29, Mr. W. C. Guthrie, the only nominee, was unanimously elected president. In returning thanks he referred with pleasure to the association's affiliation with the Federation of British Industries and hoped much good would come to them from this joining of forces.

The other office-bearers are: past president, Mr. R. W. Knox (Knox, Schlapp & Co.); vice-presidents, Mr. John Cook (Alex. Cowan & Sons Ltd.); Sir W. Lennon Raws, C.B.E. (Nobel (Australasia) Ltd.); Mr. Hugh Scott-Young; Mr. C. E. Mayo (Corbett Mayo Pty. Ltd., Sydney); Mr. J. H. Gosse (George Wills & Co. Ltd., Adelaide); Brig.-Gen. Bessell Browne, Perth; and Mr. W. M. Trevethan (W. M. Trevethan Ltd., Brisbane). Hon. treasurer, Mr. M. C. Coates (Coates & Co. Pty. Ltd.). Councillors, Mr. Lascelles Parrington (Lascelles Parrington Ltd.); Mr. F. G. Hyett (Kenyon & Hyett); and Mr. F. A. Daniel (H. S. Ingamells & Co.). Electrical councillor, Mr. H. P. Slipper (Siemens (Australia) Pty. Ltd.); textiles councillor, Mr. A. C. White (Flockhart & White); paper councillor, Mr. H. N. Brady (Spicers & Detmold Ltd.); motors and motor accessories councillor, Mr. J. S. McCarthy (Leyland Motors Ltd.); motor cycles councillor, Mr. R. V. Bristol (R. V. Bristol & Co. Pty. Ltd.); iron and steel councillor, Mr. N. W. Hutchinson (Nielson &

Maxwell Ltd.); non-ferrous metals councillor, Mr. H. Lowen (Gilbert Lodge & Co. Ltd.); rubber and asbestos councillor, Mr. S. H. Hardcastle (Bell's Asbestos Australian Agency Ltd.); linoleums and carpets councillor, Mr. A. S. Melville; china, glass and earthenware councillor, Mr. C. H. Campbell (Campbell, Walker & Co. Pty. Ltd.); machinery councillor, Mr. E. Thompson (Gibson, Battle (Melbourne) Pty. Ltd.); foodstuffs councillor, Mr. F. A. Daniel (H. S. Ingamells & Co.).

On the motion of Mr. M. C. Coates, seconded by Mr. John Cook, it was decided to delete from the title "and their representatives," thus shortening the name to "The Australian Association of British Manufacturers." Another clause in the constitution was altered by the addition of "Trade organisations devoted to the promotion of British Trade," thus making such associations eligible for membership as well as individual British manufacturers and the Australian representatives of such manufacturers.

The seventeenth annual report of the Association, as printed, is an informative document of over sixty pages. Together with a general report it contains reports from each of the sections into which the Association is divided: motors, motor cycles, textiles, electrical, asbestos and rubber, hardware and iron and steel.

An interesting news item is that the official organ, the "British Trader" is now in the hands of an independent printing office, the Association being relieved of all financial responsibility.

The lists of members at the end of the volume shows the names and addresses of 380 British manufacturers and 544 agents in Australia, but a good many of the latter appear more than once in different cities.

With headquarters at 372 Flinders-lane, Melbourne (Mr. S. F. Ferguson, general secretary), the Association has branches in Sydney, Adelaide, Perth and Brisbane in Australia, and London in England, the London office being at Australia House in the Strand.

The new president, Mr. W. C. Guthrie, has been in Australia since 1900. In that year he came out



Mr. W. C. Guthrie

from London to Brisbane under engagement with Webster & Co. Ltd., who later secured the agency for Kynoch Ltd., manufacturers of explosives and ammunition. This led to Mr. Guthrie's appointment in 1911 as attorney and general manager for Australasia of Kynoch Ltd., with headquarters in Melbourne. During the Great War he was summoned to England by his principals and from 1916 till after the signing of the Armistice he was engaged at their huge works in Birmingham. In 1919 the merger of all British explosives and ammunition manufacturers took place, and Nobel Industries Ltd. was formed with a capital of £18,000,000. Mr. Guthrie is now Australian manager of one of the subsidiary companies, Ammunition (Nobel) Pty. Ltd. His connection with the Australian Association of British Manufacturers dates from 1912, and he served a double term as president of the Executive Council in 1920-22.

Commonwealth Tariff Decisions

The following decisions of more or less interest to the hardware trade have been made during September. By way of explanation, it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (3/9/28, and so on) the date on or from which the new decision took or takes effect:—

Bags, Baskets, Boxes, etc.—			
28/757	Rings, Dee, Steel, for use in the manufacture of Bags, Portman-teaux and Trunks.	208 (a)	3/9/28
Claws—			
28/758	Nail, for removing small nails placed in saddlery during the process of lining and padding (as a Saddlers' Tool).	219	3/9/28
	Nail, metal, for conveying nails from cases to scales for weighing purposes.	208 (a)	3/9/28
Note.—T.D. 27/1019 is to be cancelled.			
Copper—			
28/759	Strips (plain or tinned, unpolished), of gauges finer than No. 40 gauge (I.S.W.G.), for all purposes. (By-law No. 1266)	404	3/9/28
Note.—The undermentioned are to be cancelled, viz.:—			
The reference to Strips, copper, etc., for use in the manufacture of Office and Shop Fittings, under security, in Consolidated By-laws, page 98, and in By-law No. 71.			
T.D.'s 25/504 and 28/494, By-law No. 1069.			
Any Copper Strips which were in direct transit to Australia on September 3, 1928, and which, but for this decision, would be admissible under Tariff Item 404 vide T.D.'s 25/504 or 28/494, may be admitted under that Tariff Item if complying with the terms set out in the Tariff Decisions mentioned.			
Electrical Appliances and Materials—			
28/769	Telephone (Wireless) Plant—Parts of viz.:—	404	18/8/28
Loud Speakers, not including cabinets of wood, for use in the manufacture of Wireless Receiving Sets. (By-law No. 1194).			
Note.—T.D.'s 28/572 and 28/677 and By-law No. 1116 are to be cancelled as from date of operation.			
T.D. 28/471 is to be cancelled and By-law No. 1066 is to be amended by deleting therefrom the reference "Loud Speakers," but any Cabinets of Wood containing loud speaker mechanisms which were in direct transit to Australia on August 13, 1928, may be admitted under Tariff Item 404.			
Machinery, Machines, etc.—			
28/771	The reference to Boring Machines, Artesian, the Armstrong, etc., in Guide, page 185, is to be cancelled.	..	..
Paints, Colours, Varnishes, etc.—			
28/773	Titanium White, provided the pigment contains a minimum of 25 per cent. titanium oxide precipitated on and coalesced with zirconium sulphate and not more than one per cent. of other substances, for use in the manufacture of Paints, under security. (By-law No. 1268.)	404	4/8/28
Electrical Appliances and Materials—			
28/799	Condensers		
Fixed—			
	Of types used solely in connection with land line telephones.	180 (a)	10/9/28
	Other	180 (f)	10/9/28
	Variable, for use with wireless receiving sets.	180 (e)	10/9/28
Note.—The reference to Condensers, etc., in Guide, page 111, and in T.D.'s 28/183 and 28/185 are to be cancelled.			
The reference to Condensers, Telegraphic, etc., in Guide, page 69, is to be amended to read "Condensers, Electrical—See Electrical Appliances, etc."			
Electrical Appliances and Materials—			
28/800	T.D.'s 28/524, 28/525 and 28/526 and By-law No. 1085 having reference to Connectors, Elements and Separators, for use in the manufacture of	..	..
Radio "B" Batteries, etc., are to be amended to operate on and from April 20, 1927. (By-law No. 1278.)			
Paints, Colours, Varnishes, etc.—			
28/803	Cadmium Lithopone, for all purposes.	404	15/8/28
(By-law No. 1274.)			
Adjusters—			
28/820	Rope, steel, for halters	208 (a)	17/9/28
Note.—The reference to Rope Adjusters for Halters in Guide, page 3, in Consolidated By-laws, page 95, and in By-law No. 71 is to be cancelled, but any such Adjusters as were in direct transit to Australia on September 17, 1928, may be admitted under Tariff Item 404. (By-law No. 1312.)			
The reference to Thimbles, Rope, etc., in Guide, page 371, is to be cancelled.			
Cringles—			
28/821	Rope (cordage), for attaching to the edge of sails.	390 (a)	17/9/28
Note.—The reference to Cringles, etc., in Guide, page 77, is to be cancelled.			
Iron and Steel—			
28/836	T.D. 25/527 as amended by T.D.'s 25/575, 26/381 and 27/278, having reference to Iron and Steel Plates and Sheets, plain, unpolished, etc., for all purposes except the manufacture of close-jointed tubes, the construction of bridges and the manufacture of vessels, is to be amended by adding after the word "unpolished" appearing in the second line the words "including trapezoidal shaped."	..	13/8/28
The relative reference in Consolidated By-laws, page 77, and in By-law No. 71 is to be amended accordingly. (By-law No. 1311.)			
Tar—			
28/840	Wood, for use in the manufacture of Cattle Dips. (By-law No. 1309.)	404	25/2/27
Thimbles—			
28/841	Sail-makers', Brass, for insertion into cringles.	208 (a)	17/9/28
Note.—The reference to Thimbles for Sail-making, etc., in Guide, page 371, is to be cancelled.			
Wire—			
28/842	Iron and Steel, tinned, from No. 28 to No. 30 gauge (I.S.W.G.) both gauges inclusive, for use in the manufacture of Apiarists' Frames, under security. (By-law No. 1310.)	404	24/8/28
Electrical Appliances and Materials—			
28/865	Bushing consisting of brass or copper cylinders insulated externally with bakelite with or without a winding of conductive wire superimposed on the bakelite insulation, for use in the manufacture of all kinds of electrical apparatus and appliances. (By-law No. 1313.)	404	23/8/27
Iron and Steel—			
28/867	Bars, steel, tyne quality, of the under-mentioned dimensions, viz.:—	404	7/8/28
4 in. x No. 9 gauge (B.G.)			
4½ in. x No. 9 gauge (B.G.)			
5 in. x No. 9 gauge (B.G.)			
6 in. x No. 9 gauge (B.G.)			
6½ in. x No. 9 gauge (B.G.)			
for use in the manufacture of Agricultural Machines and Appliances. (By-law No. 1314.)			
Note.—The reference to Bars, steel, tyne quality, etc., for use in the manufacture of Machines and Appliances (Agricultural) in Consolidated By-laws, page 103, and in By-law No. 71, and T.D. 25/599 are to be cancelled.			
Machinery, Machines, etc.—			
28/868	Engines, Petrol, Four-Cylinder Internal Combustion, for use in the manufacture of Sugar Cane Harvesters, under security. (By-law No. 1315.)	404	28/5/28
Rods—			
28/869	The reference to Zinc Rods for use in the manufacture of Electric Dry Cells, under security, in Consolidated By-laws, page 90, and in By-law No. 71 is to be amended to read "Rods, zinc, for use in the manufacture of Electric Cells, under security" in conformity with the decision thereon in Guide, page 322. (By-law No. 1316.)	..	9/3/22
Spoons—			
28/870	Perforated, kitchen, not plated .. .	197 (b)	24/9/28
Note.—The reference to Spoons, Perforated, etc., in Guide, page 350, is to be cancelled.			

The Royal Show in Melbourne

The Royal Agricultural Society of Victoria held their annual spring show at the well-appointed grounds in Flemington from September 20 to 29. Favourable weather was enjoyed throughout, and the display in some sections has never been exceeded, but the attendance of visitors was considerably short of some previous records. It would seem that the country does not come to town at show time in such large numbers as formerly, or that for some reason the show has lost much of its attraction for the town. However it be, the smaller attendance is a fact, and some of the stall-holders who pay large fees for the right to sell their goods complain that in recent years they have not covered expenses. To those who have a novelty or improved appliance to bring under notice the show provides the opportunity. It is not unusual to see in an obscure corner a rather pathetic person with a trifling invention which although useful for the purpose could never amount to anything. Many fine things, however, have found their first appreciation at these annual displays.

We mention some of the things of interest to our readers which a visit to the showgrounds disclosed on this occasion.

Cameron & Worland, of Whitehorse-road, Balwyn, have patented a household tank filter of simple design, quite inexpensive, which is intended to prevent the fouling of the water by leaves, insects, and dirt of all kinds. The water is led through a down-pipe and up through a filtering section of charcoal and pebbles. A feature is the perfect ease with which the whole thing may be cleansed from time to time.

The Coleman Quick-lite Co. of Australia, with head office at 185 William-street, Melbourne, made a good display of their specialities. The Coleman stoves, lamps, lanterns and the "iron with the cool blue handle" are known throughout Australia amongst the best of their kind especially for country districts. They are so simply operated, and the petrol fuel is such an efficient and universal product that much of the household drudgery is eliminated by their use.

The Cyclone Fence & Gate Co. Pty. Ltd., of 191 William-street, Melbourne, displayed their customary exhibit of fencing and gates, including pig and sheep fencing netting. The latter is now made to the same breaking strain as 10 gauge, but the weight is very much less. The same company are large manufacturers of fly wire of all kinds.

John Danks & Son Pty. Ltd., of 391-403 Bourke-street, Melbourne, had their usual comprehensive display. The outside section included working exhibits of pumps and farm equipment generally, as well as troughing, windmills, and all country appliances. It is noticeable that this firm have largely developed the electrical department of their business. The range of domestic articles, vacuum sweepers, table ware, fans, and lighting apparatus was most complete. Demonstrations of the McClary electric stoves were given, and this excellent type of cooker attracted a deal of attention.

Edmunds Bros. Pty. Ltd., of 187a Flinders-lane, Melbourne, are distributors of E.M.F. electric plants and machinery, comprising arc and spot welding machines, brazing machines, and welding electrodes, as manufactured by the E.M.F. Electric Co. Pty.

Ltd. of South Melbourne. These appliances were displayed by the representatives who not only supply but render service to users.

Mr. David Edwards, of 476 Elizabeth-street, Melbourne, presented the "Kookaburra" fern killer, which is said to be a most efficient implement for the purpose. This is strongly made, consisting of three rollers with cutters like a lawn mower which make "short work" of the pest. It should be as claimed, almost unbreakable.

James Hardie & Co. Ltd., of 581-83 Little Collins-street, Melbourne, made a fine display with their "Fibrolite" products, which included not only the usual sheets, but guttering and rainwater heads for factories, cover boards, box gutters, and similar building equipment. Guttering and other material of "Fibrolite" are suitable for factory buildings where sea air or fumes present a difficulty. The fact that this substance gives immunity from the chemical action met with under these conditions renders it specially useful.

Hardie Trading Pty. Ltd., an associated concern, had a range of machinery for commercial laundries, including washing apparatus and similar equipment. The same company are now well-known as the makers of cellulose lacquers under the brand of "Spartan." Besides the spraying lacquers which are now universally used for automobiles, furniture and metal manufactures, great success has attended the marketing of "Spartan" brushing lacquers for the household.

The Lawrence & Hanson Electrical Co. Ltd., with offices at 172-76 William-street, Melbourne, displayed the "Whirlidry" washer, a machine which enables the housewife to wash, rinse and practically dry the clothes without labour, and with scarcely any handling. The demonstration of this apparatus proved of great interest to women visitors.

Tradesmen were pleased with a self-heating soldering iron which while perfectly efficient in operation is quite simple in use. This is called the "Mox." It needs no fire or fuel, and provides a handy unit which will do a job while the ordinary iron is heating. The heating is accomplished by "Mox" briquettes, which are the size of a watch, and may be carried safely and easily in the pocket. They fit in the head of the iron, and when lighted heat the iron without further attention. It is specially useful for small odd jobs, may be used indoors or out, or in the rain. Three models are made for different purposes.

An unusual type of utility shown by the firm—pole climbing boots—will meet a distinct want. They are formed of steel, and enable the workman to literally walk up the pole without effort; they dispense with ladders, and leave the hands at liberty for the work in hand. In this way a means is provided of doing an awkward job in comfort and security.

H. V. McKay Pty. Ltd., of Sunshine, were represented by a wide range of machinery and implements.

In addition to the farming machinery for which they are now widely known, many different sizes and designs of tubular metal field gates are made in their works. Various styles of these are supplied such as cattle, sheep and rabbit-proof. The sizes run from 16 ft. (single gate) to 3 ft. wide, the latter being an ornamental type which is suitable

for a suburban home. The strength of jointing and bracing is such that practically a permanent gate is assured.

Bolts and nuts are also largely manufactured, of every shape and size, while bright steel shafting has become an important branch of their operations.

McPherson's Pty. Ltd., of 554 and 582 Collins-street, Melbourne, made a great show of engineers' tools, both hand and machine, as well as bolts and rivets from their Richmond works. An interesting exhibit was specimens of rivets as used in the North Shore Bridge at Sydney, all of which are being made by this firm. A working display in the pump department was of a 4 in. centrifugal type which is capable of throwing 15,000 gallons per hour.

An Australia-made forge, the "Rapid," a good piece of work, was noted among a range of smiths' tools of all kinds. Another working demonstration was given of a "Macson" lathe, a number of designs being manufactured at the firm's works in West Melbourne.

C. Newton & Co. Pty. Ltd., of 346 Post Office Place, Melbourne, made a display of paints of all kinds, together with varnishes, oil stains, terebines and painters' materials. This firm specialise in products which are said to be exceptionally economical in use, and have a grade for every purpose. One claim which interested the public was that a five-roomed house, roof included, may be fully covered at a cost of under £7, allowing two coats. This is an attractive proposition, and has enabled the exhibitors to do considerable business.

The "999" Manufacturing Co., of Sydney, with offices at 493 Flinders-street, Melbourne, earned much favourable comment with a new metal polish which has recently been launched on their home market, and is now to be distributed by wholesalers here. There can be no doubt of its efficiency judging by the demonstrations given to visitors. Nickel, brass, aluminium, copper, as well as mirrors and glass windows are all successfully treated. The paste form has some advantages over liquids, obviating loss by evaporation and spilling, while the lustre is brilliant, and speedily obtained. The claim is made that in addition to polishing it leaves a slight wax film which prevents rusting for some time, while after mud splashes are removed the polish is unimpaired beneath. This looks like a good line. It is said to be non-injurious to paint and varnish.

Noyes Bros. (Melb.) Pty. Ltd., of 495 Bourke-street, Melbourne, as agents for Sanderson Bros. & Newbould Ltd., Sheffield, were exhibiting a selection of saws from this factory. The "Pax" saw is highly spoken of by users. An Australian saw expert visited the works and from his experience in Australia and New Zealand the "Pax" skewback was specially produced for this market. The price is "right," and the makers are confident of the quality of the tool. An inspection shows a saw of fine finish and temper. It is made by the Sheffield firm from start to finish; even the grindstones used in the tapering process are hewn from their own quarries.

Ronaldson Bros. & Tippet Pty. Ltd., of Ballarat, with branches at Melbourne, Adelaide and Perth; are makers of kerosene and petrol engines. Their first engines were made twenty years ago and are still running.

At the show they were exhibiting electric lighting plants which are rapidly becoming a leading line. These are made entirely at the Ballarat works with the exception of the dynamos, of substantial British construction, and the solidly built Clyde accumulators. They abandoned the high speed set in favour of the slow speed, heavy duty type. Long life and reliability belong, they claim, only to substantially built machines with large bearings and substantial working parts. The standard lighting sets are of 2, 3, 4 and 6 h.p., while any size will be made to

specifications. The plant may be ordered either direct coupled or belt driven, as preferred, the latter allowing the engine to be used for other work. The fuel may be petrol or kerosene, and in larger sets crude oil. Since 1918 these plants have been made, ranging in size from six or eight light home outfits to big 300 h.p. town lighting plants.

Rylands Bros. (Aust.) Ltd., of 422 Little Collins-street, Melbourne, presented a selection of their leading manufactures. In addition to the netting, wires and nails for which they are so well known, several new lines will interest hardware men.

A fencing post, known as the Waratah "Star" is most useful. This is an extremely strong angle iron post, ready bored for the wires, and provides a permanent weatherproof article which should appeal to the country user. Another innovation is a straight, flat rabbit netting, made under a new process. This type of netting has many good points. It rolls out straight, without curves, waves or bulges, and is just as evenly woven and galvanised as the ordinary kind. The time and labour saved by this new process fencing material must be considerable. There is also the "Tyeasy" 12½ gauge fencing wire. It costs about half as much per mile as the usual eight gauge wire, has a breaking strain of 1140 lb., is strong, tough, flexible and yet will not stretch.

Tree Clearing Machinery Co. Pty. Ltd., of 112 Roslyn-street, West Melbourne, had an exhibit which proved attractive to visitors from timber producing districts. Their "New Record" one-man crosscut saw is a complete sawing unit which may be hauled wherever the logs are felled, and a small engine operates the saw with the greatest ease, doing the work which was hard and labourious for a man in a tenth of the time, and making a better cut.

Why?

(American Paper)

Ninety-five out of one hundred fail in business. They figure their profits incorrectly. The other five figure their profits this way:—

Example—	
Expense of doing business is	25%
(Figured on gross sale, i.e., selling price)	
It is desired to make a profit of	10%
(Must be figured on selling price)	
Cost of an article is	\$2.00

Solution—		
Selling price	Expense	Light
	Profit	Rent
	Cost	Heat
		Wages
		Advertising
		Insurance
		Freight
		Express
		Delivery charges
		Telephone
		Int. on Capital invested
		Depreciation of stock
		Bad Debts
		Extraordinary expenses

100%—equals	Selling price
35%—equals	Expense 25%
	Profit 10%

65% (of selling price) equals	Cost
\$2.00 will be 65% of selling price	
Divide \$2.00 by .65 equals	\$3.08

Answer—	
Selling price should be	\$3.08

Proof—	
Expenses—25% of \$3.08 equals	\$.77
Profit—10% of \$3.08 equals . . . . .	.31
Cost—65% of \$3.08 equals	2.00

Selling price—100% equals	\$3.08
The Ninety Five	
would figure it as being	\$2.70
which is less than cost (\$2.00) plus expense	
(.77)	\$2.77
That's why they fail,	

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.

For English prices, see The Month's Cablegrams on page 340

Sydney, October 2, 1928.

The past month has been very successful. Reviewing the disadvantages under which the country districts were operating largely through the absence of rain it is surprising that such a regular volume of trade came through to the metropolitan area. Shelf goods were sold at list prices and stocks showed reduction all round in quantity. While unchanged in price, heavy hardware had a good demand, and some very satisfactory sales were effected. Builders' materials went into distribution in satisfactory quantities which gave evidence of a healthy tone in trade. Manufacturers had a busy month and no complaints were noticeable regarding the business written. Painters' materials sold readily at list prices. Turpentine and resin were rather short in stocks and the arrivals of scheduled ships carrying new season's pack will hardly cover requirements. Indent quotations have not altered materially but prices quoted forward are inclined to firm. Galvanised sheets both plain and corrugated met with ready response, and except for the hold up of stocks which in the ordinary course would have been delivered there has been so far no serious disadvantage to trade. Oils have sold well, and stocks have been sufficient to cover demand. Tinplates are short in stock, and ships arriving are carrying stocks which are offered only at a premium. The interstate holdings are not available at present, which may make some difference if the strike continues. Jute fabrics have experienced a very indifferent month, and prices have fluctuated from day to day. The country position at time of writing is very unsatisfactory and trade therefore is difficult to forecast. Suburban business has shown a tendency to be well spread and cash trading is reported well up to expectations. The outlook for the remainder of the year is considered good.

Christchurch, September 18, 1928.

While there is room for considerable improvement in hardware turnover, a spirit of optimism is very noticeable. As city merchants depend to very great extent on the farming community, it is interesting to learn from the annual report of a big auctioneering and agency firm that the past season was one of the best experienced for many years. The spring was late but the weather for harvest was all that could be desired in most districts and quantity of grain and produce gathered was much above the average. Prices were remunerative for practically all products. Business firms appreciate the recent action of the associated banks, after a year of short credit and a maximum interest rate, in reducing the interest by $\frac{1}{2}$ per cent. on overdraft rates. Lower interest rates, provided extensive speculation is avoided, benefit the community generally because increased business results and this is already noticeable in the more prosperous position of the building trade. Following the winter slackness, the local hardware shops are again busy and a demand has set in for lawn mowers, garden rollers, lawn rakes, turf edging knives, spades, Dutch and Swanwell hoes, trowels, wheel forks, watercans and other necessities for gardening. A certain amount of spraying is still being done and sales of Bordeaux mix-

ture and lime sulphur preparations are being made. The winter sports are practically over and departments for such goods are putting away their footballs and hockey sticks and dressing their windows with tennis racquets, bowls, croquet sets and cricket material. The shooting season is drawing to a close and the fishing season which takes its place will keep the hardware expert busy selling rods, reels and flies. Prices are unchanged since last report.

Dunedin, September 12, 1928.

Generally at this time of year trade is on the quiet side and at present that condition obtains, although improvement is confidently anticipated in the near future. As the days lengthen many undertakings that have been delayed, will be taken up and several new contracts ought to be in hand before long. It is being remarked upon that never

NEW ZEALAND PRICES

	Duty.	Auckland. Aug. 17	C'church Sept. 18	Dunedin. Sept. 12	Wellington Aug. 23
IRON—					
Bar—		£	£	£	£
English ..	Free	20	22/	21/	22/
Shoeing ..	"	22	23/	21/	23/
Steel ..	"	14 10/ to 20	20	22/	15/ to 22/
Pig ..	"	7	10/6	10/6	9/- to 10/6
Plate ..	"	20 10/	24/	25/	22/
Hoop ..	"	21/6	25/6, 37/6	30/	25/ and 35/
Sheet, Bk.	"				
to 20-g. ...	"	21 10/, 22 10/	24/6	24/	23/6
22 & 24 g.	"	23 10/	26/6	26/	25/6
Galv. Cor.—	2/-				
First ..	"	26	27/6 Build'rs	25/	26/
Second ..	"	25	25/-	26/	25/
Local ..	"	26	"	"	"
Do., Plain	Free				
24 & 26 g.	"	28, 29/10/	29/6, 32/	32, 34, 36	28
Pipe—Galv.	Free	50%	47% off	42%	45% off
Black ..	"	60%	50% off	50% off	50% off
Wire—	"				
Galvd. ...	"	15/6, 18/-	16/	16/	17/ to 18/
Black ..	"	16/-	16/	15/	
Barbed ..	"	20, 23 10/	21/-	21/	21/ to 22/
Nails ..	2 1/4/- c	20/6	20/	22	21
N. Z.		20/6	"	"	22
Lead—Pig	Free	31	33/-	21/	32
" Sheet	"	34, 10	36/-	34/	39
" Shot	"	75/	75/	80/	75/
Tin—Ingot	Free	2/6	2/3	2/6	2/3
" Plates	"	27/6	40/	40/	37/6
Zinc—Sheet	"	7 1/2 d. lb.	9d. lb.	8 1/2 d.	7 1/2 d
Quicksilver	"	"	6/6 lb	"	"
Cement—					
Imported	1/- cwt.		28/6 cask		
Local bag	"	5/5	7/-	6/	5/11
Slates ..	Free	24/-	30/-	28/	27/
P. of Paris ..	6/- cwt.				
White Lead	"	54/	56/	56/-	58/
Best ..	"	53/			57
Second ..	"	1/8	2/-	1/7	1/8
Blst. Powder	Free				
Rope—	20%				
Manila, Star	"	106/	106/	111/	111/
O ..	"	102/	102/	107/	107/
Flax, N.Z. ...	"	79/ 86/	86/	88/	88/
Co. snacks ..	Free				
44-in. ...	"			12/9 1/2	12/6
46-in. ...	"		12/9	12/8 1/2	12/9
48-in. ...	"	13/6	13/8	13/2 1/2	13/-
Woollpacks ..	"				
Full ..	Free	5/3	5/8	4/6	5/3
Oils—					
Lins'd, raw	6d.	5/6	N.Z. 5/- Eng 5/3	5/2	5/8
Castor ..	Free	5/-	5/6	5/5	5/6
Colza ..	"	7/9	8/	8/	7/9
Kerosene ..	"	13/9	14/9	14/6	13/9
Turpentine ..	"	5/6	5/6	5/9	6/6

before have so many shop frontage improvements been undertaken in Dunedin. Most of the chief establishments in our main thoroughfares—Princes-street, the Octagon and George-street—have been entirely renovated and brought into line with modern ideas on this subject, an evidence in itself of enterprising confidence. A considerable amount of building is represented by the Government Repairing Works in South Dunedin, not only for the engineering department, but for the social requirements of the hundreds of employees engaged. These works have been introduced by the Government to provide all the repairing work entailed in the maintenance of the railways of the middle island. In regard to prices there is little change. Galvanised corrugated iron has been advanced to 28/- for first and 26/- for second brands, while cornsacks also show advance: 44 in. being quoted at 12/9½; 46 in. at 12/8½ and 48 in. at 13/2½.

Brisbane, October 1, 1928.

September has proved only fair from a business point of view. Prospects appeared to be shaping well at the commencement, but the waterside workers strike has considerably interfered with the demand. Heavy hardware has been fair with prices unchanged. Stocks are in good supply for the present. All classes of station supplies have been moving freely with stocks low in some instances, and prices unaltered. Wire netting is in very light supply. Woolpacks have been fairly good, but are now easing off. Wheat sacks are extremely scarce, and prices are on the rise. Builders' supplies are also short in many lines, and the position is likely to become more acute, if the industrial trouble does not right itself shortly. The supply of nails is very light at present and prices are inclined to firm. Shelf goods have been moving freely, but sales have dropped greatly as a result of the upheaval. Paints and oils have been selling more strongly this month, but stocks are very light for some lines, notably whitelead (imported) and linseed oil (raw). Prices are firmer, and likely to advance if no relief in the way of stocks are forthcoming. Sanitary ironmongery and accessories are in light supply for several lines and prices are easier; the demand for the month has been fairly good in cement, some fine orders having been recorded especially for the Queensland brand. Prices are steady and stocks plentiful. Aluminium and enamelled ware are in short supply and prices are inclined to firm. Business has shown a slight improvement in this line. Crockery and glassware of all kinds are steadier with fair sales and prices unaltered. Stocks are on the light side for a number of lines. If the present waterside workers strike continues there will be a general shortage of many imported lines of all kinds.

Adelaide October 1, 1928.

At this centre during the month under review, general hardware trade can only be described as dull. The long spell of dry weather has falsified the general expectation of a bumper harvest and although the month closed with a very useful rain it came too late for many districts and even given a good October rain it is very unlikely that even a thirty million bushel crop will be harvested. The unsettled state of affairs along the waterfront can also be blamed for materially assisting to retard business. The State Budget presented during the month shows a further deficit despite the alarming increase in taxation which has been levied by the Treasurer since he assumed office. These seem to be the main causes of again ushering in a state of pessimism which is now the prevailing tone amongst all sections of the community. Inter-

house trading between merchants has not been brisk—despite the shipping trouble and the consequent holding up of supplies. A few of such transactions noted, however, are listed below:—3000 ft. ½ in. and 4000 ft. ¾ in. galvanised tube at 60 per cent. off list, nett 6 tons No. 10 galvanised wire at £16 per ton, nett; 2 tons "Lux" carbide 50/80 at £29/15/- per ton; 1 ton American "N" resin at £27 nett; 4 miles galvanised netting, 36 x 1½ x 18 g., at £27/5/- per mile, nett ex store; 15 cases "Wando" turpentine; 5 drums Stockholm tar at 58/- nett; 10-cwt. ingot tin at 2/3 per lb. nett. Building materials—galvanised iron, reinforcing rods, lead traps, etc., showed no activity and shelf goods likewise met with little demand.

Melbourne, October 3, 1928.

Trade has not improved during the past month. The habit of buying for immediate needs only is apparently well established, and business has to be hunted with persistence. This is merely another way of saying that the prevailing financial stringency necessitates the cutting of expenditure to the lowest possible figure. The recent rains, however, are expected to have an immediate effect on commerce, and last minute reports indicate that already a movement is discernible. Fencing materials, while steady, sold but slowly. Galvanised wire, in parcels of 5 to 10 tons sold as follows: No. 8, £15/10/- net; No. 9, £16/15/- less 2½ per cent.; No. 10, £17/5/-; No. 11, £17/15/- less 2½ per cent.; 5 ton handlings of No. 6 black wire were observed at £18. The prices for barbed wire were shown by sales of 10 tons of 12 gauge, at £21/10/-; 13 gauge, £22/10/-; 3 tons 14 gauge, £23. Wire netting rates were for 3 miles 42 x 1½ x 17, £49; 5 miles 42 x 1½ x 17, £41; and a similar quantity of 36 x 2 x 18, £25. This netting was Australian made in every case. There was scarcely any business done in iron pipes, a few small lots changing hands at 57½ per cent. off. Except for small local needs galvanised iron was not much in request. Here and there imported brands found buyers, but again in small quantities. One transaction of 5 tons G.C. iron, 7, 8 and 9 ft. went at £24/5/- basis, less 2½ per cent., while a parcel of 10 tons was sold to arrive at £23/10/-. The cement position remains unchanged. Australian factories continue to operate, and new mills are advised in New South Wales. Cement companies are seldom able to sell outside their own States, high freights precluding interstate competition. Public bodies are the principal users. Small quantities of English brands continue to arrive, one consignment of 100 casks of K.B. being taken at 19/6 ex wharf. Up to June last the total imports of overseas cement were rather more than £73,000 for the year. Other prices which may be of interest were ingot tin, which varied from £225 to £227 during September, with firmer quotations anticipated early this month. Cornsacks were sold at 10/6, with a prospect of reaching 10/8 at an early date, while bransacks ruled at 9/3 to 9/6. The improvement in harvesting prospects will harden these rates very shortly. Paints and oils are moving fairly well as the season advances. Linseed oils of local make are as at last quotations, and no change in the price of white lead is advised. Throughout the Melbourne hardware trade the general slackness of demand persists. Shelf goods meet with but moderate inquiry, and there is a constant tendency among buyers to look for keen prices, often at the sacrifice of quality. This in turn has led to the gradual passing of many reliable brands of British origin, and the substitution of foreign products. In preparation for the Christmas period supplies of domestic utensils and pottery and glassware are now coming to hand. The trade is hopeful that with the better outlook due to timely rains, business will improve for a season.

The Month's Cablegrams

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date	Copper Electrolytic Per Ton		Tin Standard Per Ton		Silver Standard Per Ounce	
	1927	1928	1927	1928	1927	1928
Au 30	£ 62-62½	£ 68½-69½	£ s. d. 289 5 0	£ s. d. 212 6 3	d. 25½	d. 26½
Sep 2	62-62½	68½-69½	289 5 6	213 12 6	25½	26½
" 10	61½-62½	68½-69½	289 12 6	209 18 9	25½	26½
" 17	62½-62½	70½-70½	285 7 6	213 8 9	25½	26½
" 24	61½-62	71½-71½	270 18 9	220 8 9	25½	26½
" 30	61-61½	71½-71½	266 7 6	227 17 6	25½	26½
Oct 4	61½-62½	71½-71½	269 7 6	222 10 0	25½	26½

The stocks of tin in the United Kingdom at the end of September were 19,667 tons, the deliveries for the month 2216 tons, the quantity on spot 1335 tons, and the quantity afloat 1975 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—September 4, £22/7/6; September 10, £22/2/6; September 17, £22; September 24, £21/18/9; September 30, £21/15/-; October 3, £22/1/3.

For the month of August the imports of lead into Great Britain were 19,608 tons, including 5876 tons from Australia. The exports were 1305 tons.

Spelter.—The spot quotations for spelter, as cabled from London, have run as follows:—September 4, £24/16/3; September 10, £24/13/9; September 17, £24/10/-; September 24, £24/6/3; September 30, £24/1/3; October 3, £24/2/6.

Tallow.—Following are the statistics for September and particulars of the latest auction sales:—

Sept	Casks	Date	Casks Offered	Casks Sold	Mutton Med. per cwt	Beef Med. per cwt
Imports	801	Sept 6	664	210	39/-	39/-
Deliver's	1171	" 13	Nil			
Stock	1194	" 20	668	448	39/6	39/6
		" 27	Nil			
		Oct. 3	883	646	40/6	40/6

Agents and Agencies

Nelson & Co. Ltd., Broughton House, 47 King-street, Sydney, have been appointed N.S.W. representatives for Frohlich & Wolter, Beierfeld, Germany, manufacturers of "Frowo" hurricane lanterns, spirit stoves and fruit presses.

Richardson Orr & Co. Ltd., National Buildings, 250 Pitt-street, Sydney, have appointed Staniland Ltd., of 240 Moorhouse-avenue, Christchurch, New Zealand, with branch offices at Wellington and Auckland, as their representatives for the Dominion.

Gibbs Bright & Co., of 535 Kent-street, Sydney (and elsewhere), have been appointed sole distributing agents in N.S.W., for Hadfields (Merton) Ltd., England, manufacturers of Heolin brand high-grade paints and enamels, wall finishes and anti-corrosive paints. Large stocks are carried for immediate delivery and sub-agents are to be appointed throughout the State.

Travellers

In New Zealand

Mr. Percy A. Lyttle of Walter A. Cox Ltd., returned to Sydney on October 2 by the S.S. "Mar-ama," from a two months' business visit to New Zealand.

Mr. Leslie J. Pain, 209a Castlereagh-street, Sydney, left on September 28 for New Zealand, where he will show a complete range of samples on behalf of his various principals. His address is C/o The New Zealand Express Co. Ltd., at the various large centres.

In Victoria

Mr. S. C. Hill, of Hill & Yamashita, Denison House, 380 George-street, Sydney, will visit Melbourne early in October with a full range of tea-ware, fancy crockery and glassware. His address will be Commerce House, Flinders-street.

To and From Europe

Word has been received from Mr. Oliver M. Tibbitts, who has been to England on a business trip, that he is returning by the R.M.S. "Orvieto," reaching Melbourne early in October.

Mr. J. Shorter, of John Shorter Ltd., pottery and glassware importers, 193 Clarence-street, Sydney, who left sometime ago on a business and pleasure tour of England and Continental Europe, is expected home in November next.

Mr. G. I. Levy, manager of the pottery and glassware departments of Keep, Macpherson Ltd., 252 George-street, Sydney, is to leave Sydney in December next on a business tour embracing the United Kingdom and Continental Europe on behalf of his firm. He will visit all the principal factories in the countries named.

Hospital Appeal

In Melbourne the month of October witnesses a recurring appeal on behalf of the metropolitan charities. Collections are made indoors and out of doors on a fixed Saturday and on the following Sunday the various churches invite and receive money for this deserving work. On the present occasion the Lord Mayor is drawing special attention to the great need that exists for increased generosity on the part of the charitable public. A statement which he has circulated shows that whereas in 1918-19 the maintenance cost of the six largest city hospitals was £142,620, by 1927-28 it had increased to £316,573.

Quite Safe!

An old lady was going down a coal mine for the first time in her life. As the cage descended she noticed how she and the rest of the party were dependent upon a single rope to which it was attached. "Do you think it is quite safe?" she asked a miner, as she glanced up at the rope.

"Don't you fear, mum," was the reply. "You're quite safe. These ropes are guaranteed to last exactly twelve months, and this one isn't due to be renewed till to-morrow."

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney Oct. 2	Melbourne Oct. 3	Adelaide Oct. 1	Brisbane Oct. 1		Duty	Sydney Oct. 2	Melbourne Oct. 3	Adelaide Oct. 1	Brisbane Oct. 1
Pig Iron ...	20/ 40/	£	£	£	£	Zinc—		£	£	£	£
British ...	...	...	7 5/	7 10/	...	Sheet 9 to 18g	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.
Swedish ...	...	...	...	...	...	(7 x 3 & 8 x 3)	...	4/9	7	...	5/6
Lithgow ...	7 10/	7 5/	...	...	...	Perforated	35%, 45%	32	...	64/	...
Newcastle ...	7 10/	7 5/	...	...	...	Spelter	10%, 20%	301.10/ to 37	41 to 42	...	40/
Bar and Rod	44/ 120/	23 basis	English 21	21	22.10 basis	" Elec...	...	1/9	1/5	...	1/9
Australian ...	...	...	18/6	17 10/	...	" Brazing	25%, 40%	...	...	...	...
Mild Steel ...	44/ 120/	19 basis	19/ basis	19 10	18	Bolts & Nuts—	...	...	...	...	...
Bar ...	...	19	18	21	20	Cuphead 3"	35%, 50%	75/ 59/	63/ 47/ 41/	41/- 38/	26/3 to 73/
Angles ...	...	22	18	21	20	" 4"	...	76/ 57/	61/ 46/ 89/	41/- 36/	...
Tees ...	...	20 basis	19 basis	19/	21/ basis	" 5"	...	70/ 54/	56/ 43/ 37/	40/- 34/	...
Hoops ...	F., 10%	29.9 basis	32	38/	32 10/	" 6"	...	65/ 49/	52/ 39/ 35/	37/- 33/	...
Black ...	...	25	24 10/	25	25 5/	" 9 1/2 to 12"	...	61/ 47/	49/ 38/ 34/	36/- 31/	...
Galv. ...	20/ 60/	26 10/	26	26/10	28 15/	Tanks, 400-gal.	Free	59/ 45/	47/ 36/ 32/	33/- 30/	...
Galv. Corr. 24g.	...	...	...	...	...	" 200-gal.	...	6	5 15/	5 10 0	5
Orb 25 g ...	...	...	...	...	...	Tubing—	F., 10%	3	3 5/	3 10 0	3 10 0
" ...	...	...	...	...	...	Black, up to 3"	...	55 off list	55% off	58% off	List 45% off
Phoenix Cr.	20/ 60/	30/]	26 10/	27 5/	28 15/	" 3 1/2 & up	27 1/2	...	60% off	35 off	5% on
Galv. Plain 24g.	...	27	27	28	27	Galv. up to 3"	27 1/2	50	55% off	46% off	40% off
Queen's Hd.	...	26 5/	26 10/	27 15/	26 10/	" 3 1/2 & up	27 1/2	40	tst. List	20 off	Less 5% off
Phoenix Cr.	...	...	...	...	40	Steam, up to 3"	27 1/2	...	37 1/2 off	37 off	25% off
Fleur-de-lis	...	...	...	...	...	" 3 1/2 & up	...	...	5% off	20 off	List
Other	F., 125/	...	...	...	...	Wr'ght boil.	F., 5%	...	10% on	...	...
Sheet	...	26 basis	25 basis	25/15	26	Explosives—	10%	1/-	10 1/4 d.	1/-	5/
Black	...	B26, G34 5'	26 10/	19	19	Hall's C.C.	...	10 1/4 d.	10 1/4 d.	11 1/2	1/1
Baldwins	...	...	...	...	...	Curtis's	...	10 1/4 d.	10 1/4 d.	11 1/2	1/1
Plate	F., 120/	17/- basis	15 basis	15	15 10/	Chilworth's	...	10 1/4 d.	10 1/4 d.	11 1/2	1/1
Steel	...	19.6	21	19	20/-	Sporting	15%, 25%	8/6, 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/
Girder	F., 120/	...	...	...	...	Diam. S'less	...	10/	8/ to 8/6	8/8 to 8/6	5/
Fencing Wire	...	...	...	...	...	Amberite	...	8/6	7/ to 7/6	6/9 to 7/6	75/
American 8	...	18 5/	18 5/	...	...	Blast'g Gel.	F. 5%	72/6	74/6	74/6	78/6
Austra'n 8 Bl.	...	14 2/6	14 10/	15 10/	14/12/9	Gel. Dyna.	...	65/	66/	66/	71/-
Galv. 10	...	14 13/6	15	16	16/10/6	Gelignite	...	56/ to 60/	56/ to 59/8	54/6 to 58/6	62/ to 66/
" 8	...	15 18/	16 10/	18	16/8/	Dynamite	15%, 25%	41/ to 51	51/ to 57/	46/6 to 51/8	58/ to 102/
" 12	...	16 9/	17	19	16/19/	Detonators	...	55/	55 to 60/	60/ to 85/	90/
" 12	...	18 12/6	18 10/	20/ 5	19/2/	Shot—Chilled	5/ 6/	63/6	61	71/	...
Barbed Wire.	68/ 180/	...	...	...	...	Australian	...	61/	56	68/	1/4
Amern. 12-g.	...	24	...	...	...	Cyanide Pot.	Free	1/4	1/6	5/8	8/6
Austn. 12-g.	...	25 10/	...	...	...	Quicksilver	Free	7/6	5/	5/8	18/6
" 13-g.	...	24 10/	22 10/	22 10/	12-24 8/9	Sash Weights	35%, 45%	15/	16/6	16/6	60
" 14-g.	...	26	23 10/	23 10/	12 1/2-25 10/	Sheep Shears	F. 10%	60/	60/	60/	21/ cask
Wire Netting	F., 200/	£48/15/0	48/10/0	...	43/ 5/9	Cement—Imp't'd	20%, 30%	21/ cask	21/	21/-	6/6 bag
42 x 1 1/2 x 17	per. ton	£39/ 5/8	35/10/0	38	34/ 5/9	Aust. (bags)	1/6, 2/c	37/6 K.W.	35/	47/6	50/ cask
42 x 1 1/2 x 18	...	£41/16/0	41/16/0	45	41/16/	Plaster, Imp.	...	Pixie 35/-	8/	9/3	18/ bag
42 x 1 1/2 x 17	...	£33/ 2/0	34/ 0/0	38 10/	38/ 2/	Slates (20 x 10)	30%, 40%	...	...	...	62/
42 x 1 1/2 x 18	...	£41/16/0	42/ 0/0	...	41/16/	White Lead—	8/ 10/ or	63/6	63/6	64/-	56/6
36 x 1 1/2 x 17	...	£33/13/0	36/ 0/0	...	33/10/	Imported	25%, 30%	58/	70 to 100	...	72/ to 80/
36 x 1 1/2 x 18	...	£29/10/0	29/16/0	20	28/ 9/3	Australian	...	...	...	...	Colonial 56.
36 x 1 1/2 x 17	...	...	...	...	...	Zinc White	20%, 30%	...	...	...	...
36 x 1 1/2 x 18	...	...	...	...	...	Oils—	...	...	...	...	...
36 x 1 1/2 x 17	...	...	...	...	...	Linseed (raw)	9d., 1	R5/	5/4	Drs., 5/9	5/1
36 x 1 1/2 x 18	...	...	...	...	...	Imported	...	C4/6 D5/6	5/6	Drs., 4/9	4/7
36 x 1 1/2 x 17	...	...	...	...	...	Australian	...	...	C., 4/	...	...
36 x 1 1/2 x 18	...	...	...	...	...	Colza	6d., 8d.	...	6/-	...	...
36 x 1 1/2 x 17	...	...	...	...	...	Burning	...	...	...	...	...
36 x 1 1/2 x 18	...	...	...	...	...	Castor—	9d., 1/	C 6/6	6/3	6/9	6/10
Nails—	...	...	...	...	...	3-cases	...	...	8/	...	10/
Horshoe ...	12/ 15/	Less 10%	to 1/1b.	1/ less 10%	List Price	China	2s., 2/6	...	8/6 to 10/	...	13/6
Austn. ...	...	...	...	...	To less 10/	Cotton seed	6d., 8d.	...	13/	...	13/6
Wire ...	5/6, 8/	23/6 basis	18/ to 20/	24/6 to 35/	26/- basis	Kero.—C.O.R.	Free	...	13/6 to 14/6	13/	13/6
Austn. ...	or 25%, 35%	...	...	...	...	Laurel	...	18/	13/6 to 14/6	13/	13/6
Roofing—	5/6, 8/	65/- cwt	65/cwt., 9/6	9/-	38/	Light of Age	...	13/	13/6 to 14/6	13/	13/6
Even-den	...	...	...	...	...	Pennant	...	13/	13/6 to 14/6	13/	13/6
Lead-head	...	...	...	...	...	Turpentine	F.,	4/9	4/9	4/10	4/7 1/2
Block Tin ...	Free	£215/ 0	226	230/	3/	Substitutes	1d., 1d.	3/	18/ per case	2/8	2/6
Tin Plates ...	...	...	...	...	...	Shellac	...	3/6	2/6	8/4	3/
28 x 20—	F., 10%	112's 60/-	62/6	112's 52/6	27/	Whiting—	6d., 9d.	8/-	8/	9 10/	£10 ton lots
I.C. Coke ...	28 x 20	56s	70/	42.	...	English	...	6/3	6/	5/	6/8
I.X. Coke ...	...	...	...	...	...	Colonial	...	32/8	32/-	28/	24/6
Pig Lead ...	Free	25/6	28	29	37/10	Resin, G grade	Free	80/ 150/	...	...	...
Austn. ...	...	...	...	...	...	Carbide—	...	82/6	27/ 6	29 5/	29, 7/6
Sheet Lead ...	10%, 20%	40/	40	43/6	45/	" I X L "	...	84/-	33	33 10/	33
Dampcourse	...	...	...	...	...	Scandinavian	...	...	...	...	...
2 lb. ...	...	4 1/2 6/6	48	...	...	Canadian	...	...	...	...	...
3 lb. ...	...	4 1/2 9/9	47	...	...	Japanese	...	...	...	...	...
Lead Pipe—	10%, 20%	45/	47 10/	46 5/	55/	Bluestone—	100/ 200/	87/6	37/6	...	42/
3 to 2 in. coils	...	47/	50	48 15/	55/	Macclesfield	...	36(1 cwt c/s)	...	87/6	...
Lengths to 5'	...	50/	51	48 10/	57/	Australian	...	...	...	...	...
Compo. 1/2 up	...	...	...	...	...	Japanese	...	...	1/5	60/-	...
Copper—	...	...	...	...	...	Stock. Tar, 42 g.	25%, 35%	Free	6/	5/9	...
Ingots ...	...	70	78/	10d.	...	Woolpacks—	...	4/	4/7	4/9	4/8
Sheet ...	25%, 40%	1/9	1/7	1/8	1/8	42 x 11 1/2	...	...	...	...	...
Brass ...	25%, 40%	1/3	1/2 to 1/6	1/6	1/6	54 x 11 1/2	Free	9/10	11/6	11/6	12/
Sheet ...	...	...	...	...	...	Corn sacks—	...	9/7	9/6	10/-	10/7
	...	...	...	...	...	2 1/2 lbs. (Oats)	...	...	...	...	...
	...	...	...	...	...	2 1/2 lbs	Free	...	...	...	...
	...	...	...	...	...	Branbags	...	...	...	...	...

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

Mr. H. Rogers, manufacturers' representative, has removed from 92b Pitt-street, to larger offices and showrooms at Commercial Bank Chambers, 109 Oxford-street, Sydney.

S. C. Hill & Y. Yamashita, Australian representatives for Kiku Gumi Ltd., Eastern china and glassware merchants, Kobe, Japan, have removed from Queen Victoria Buildings, George-street, to Denison House, 380 George-street, Sydney.

Firms Registered

Johnson & Service, general storekeepers, Koora-watha; proprietor: Thomas Johnson.

Ball Bros., storekeepers, Kinchela, Macleay River; proprietors: Clarence M. Ball and Clifford R. Ball.

F. W. Clarke, brassfounder and engineer, Circular Quay West, Sydney; proprietor: Andrew S. Thomas.

G. J. Maxwell & Co., hardware merchants, 161 Church-street, Parramatta; proprietor: William J. Irwin.

Treasure Trove, grocers and hardware merchants, 241 Hunter-street, Newcastle; proprietor: William J. Lyne.

Lister & Plunkett, general storekeepers, Kikoiria Siding, via Ungarie; proprietors: John R. Lister and Joseph Plunkett.

Lloyd & Milne, general storekeepers, Fitzwilliam and Old Windsor-roads, Toongabbie; proprietors: James Milne and Arthur E. Lloyd.

Stuart & Son, manufacturers' agents and manufacturers of hardware lines, 12 Castlereagh-street, Sydney; proprietor: Albert C. Stewart.

Levingston & Son, grocers, ironmongers, etc., 38 Marsh-street, Armidale; proprietors: William J. Levingston and William D. Levingston.

E. J. V. Falconer, grocer, ironmonger, etc., Central Stores, Gaskell-street, Canowindra; proprietors: Edward J. V. Falconer and Mabel F. Falconer.

Borthwick's Proprietary Co., merchants and manufacturers of paints, varnishes, etc., McEvoy and Elizabeth-streets, Waterloo; proprietors: Pinchin, Johnson & Co. Ltd.

Company News

Richardson, Orr & Co. Ltd., have been registered with a capital of £15,000 in £1 shares. Objects: To carry on business as importers, exporters, merchants, etc. Subscribers: Arthur Brady, Ella W. Orr, Agnes Simpson, Emily Noble, George Arnold, C. H. Craig and W. M. Fowler. Reg. office: Sydney.

Western Stores and Edgleys Ltd. have been registered with a capital of £600,000 in £1 shares. Objects: To acquire by agreements the businesses of The Western Stores Ltd., L. Edgley & Co. Ltd., Edgleys Ltd., and Dalton Bros. Ltd., of Orange, etc. Subscribers: T. H. Cameron, Charles G. Scott, R. C. Brown, W. J. Le Quesne, G. H. R. Barlow, G. W. Barlow and W. J. Stiffe. Reg. office: Macquarie-street, Dubbo.

New Zealand

Parson's Engineering Co. Ltd. have been registered with a capital of £3000 in £1 shares. Objects: Motor engineers and general. Subscribers: R. Parsons, R. T. Parsons and J. L. Parsons.

Walter Strang Ltd. have been registered with a capital of £1700 in £1 shares. Objects: To carry on the business of manufacturers of and dealers in hardware, jewellery and general merchandise, and such other articles as the company may consider capable of being conveniently dealt in in relation to its businesses. Subscribers: W. W. Strang and T. Ness.

A. L. S. Cassie Ltd. have been registered with a capital of £3000 in £1 shares. Objects: To acquire and take over as a going concern the business now carried on at Dunedin under the style of A. L. S. Cassie, to carry on the business of consulting engineers, mechanical engineers, etc., and manufacturers of and dealers in hardware goods of all kinds. Subscribers: A. L. S. Cassie and N. Dodds.

Queensland

E. Gadsby & Co. (Edward Gadsby), ironmongers, 190 Edward-street, Brisbane, announce that Edward Gadsby has retired by death, and that Edwin T. Gadsby and Thomas Hudson (as executors) have become members of the firm.

Firms Registered

L. W. Linning, storekeeper, etc., Glamorgan Vale; proprietors: Ludwig W. Linning and George L. Linning.

Shaw & Sons, ironmongers, Edward-street, Brisbane; proprietors: Henry Shaw, Annie E. Shaw, Henry W. Shaw and Vera A. Shaw.

John Renton, hardware merchant, Tank-street, Valley, Brisbane and Gladstone; proprietors: John Renton, Eleanor M. Renton and Ruth Renton.

Company News

Forrers Ltd. have been registered with a capital of £25,000 in £1 shares. Objects: To acquire and take over as a going concern the business now carried on by Karl O. Forrer, at Ipswich, as an engineer, etc., and to carry on the business of engineers, founders, smiths, builders, contractors, etc. Subscribers: Karl O. Forrer, Karl O. Forrer (senr.), Hedwig G. Forrer, Henry G. Simpson, Charles H. Merrell, Edwin R. Green and Consuelo A. E. Collyer. Reg. office: Wharf-street, Ipswich.

Sneddens Patents Ltd. have been registered with a capital of £1100 in £1 shares. Objects: To take over and acquire from John Sneddon, of Townsville, foreman pattern maker, the benefit of certain inventions in relation to the sharpening of razors, lances, safety razor blades and to carry on the business of manufacturers, vendors and dealers in any of the inventions referred to and to carry on any other business of a similar nature. Subscribers: Frederick E. Rooney, William J. Gillespie, Henry F. Nevin, John A. Rooney, Charles S. Mackenzie, Charles T. Leach and Zelia B. Leach. Reg. office: Townsville.

Smith & Atkinson Ltd. have been registered with a capital of £20,000 in £1 shares. Objects: To purchase or otherwise acquire and take over as a going concern all or any part of the business of engineers and copper-smiths formerly carried on at Mary-street, Brisbane by John P. Atkinson and the late Albert E. Smith (now deceased), under the style of Smith & Atkinson, and to carry on the said business, etc. Subscribers: John P. Atkinson, Percy A. Smith, Leonard S. Smith, Harold Atkinson, Leslie

Atkinson, Ernest D. Smith and Adalbert F. T. Ruthning. Reg. office: 67-73 Mary-street, Brisbane.

Woodcrete Ltd. have been registered with a capital of £2500 in 2/6 shares. Objects: To acquire from the patentee, E. J. Foster, the patent rights for the manufacture of building boards, linings, mouldings, floorings, insulating boards, etc., from waste materials, and to carry on the business of manufacturers of boards of all descriptions, etc. Subscribers: John A. B. Reid, John F. Partridge, Arthur B. Overell, Charles Woodhead, Louise M. Partridge, Robert H. Tate and John Storrie. Reg. office: Bryces Chambers, Adelaide-street, Brisbane.

South Australia

Firms Registered

Venning's Supply Stores, general storekeepers, 86-87 Tasman Terrace, Port Lincoln; proprietor: John Robert Venning.

Powell Bros., brass founders, 21 Owen-street, Adelaide; proprietors: Richard Alfred Powell and Edward Francis Powell.

Company News

Haselgrove & Co. Ltd. have been registered with a capital of £50,000 in £1 shares. Objects: To acquire and take over as a going concern the business now carried on at Gouger and Market-streets, Adelaide, under the style of Haselgrove & Co., and all the assets and liabilities in connection therewith, to adopt a certain agreement, and to carry on the business of ironmongers and hardware merchants in all its branches, etc. Subscribers: Emily Martha Haselgrove, Colin Powell Haselgrove, Cecil Frank Haselgrove, Leonard Guy Haselgrove and Frederick Richard Eric Haselgrove. Reg. office: 47 Gouger-street, Adelaide.

International Oil & Trading Co. of Australasia Ltd., have been registered with a capital of £1,000,000 in £1 shares. Objects: To acquire and take over from Jan Rosing his business as trade and manufacturers' agents and all or any of the assets in connection therewith, to enter into and adopt two certain agreements, and to carry on the business of producers, refiners, storers, suppliers and distributors of petroleum and petroleum products in all its branches. Subscribers: Jan Rosing, Otto John August Hubner, Laurence Ewin Lovegrove, Thomas Bell and Robert Badger. Reg. office: 31-32 Epworth Building, Pirie-street, Adelaide.

Perkins Jessup Pneumatic Harvesters Ltd. have been registered with a capital of £25,000 in £50 shares. Objects: To acquire and take over from Frederick Charles Perkins, engineer, New Hindmarsh, all the right, title and interest of the said F. C. Perkins in and to certain inventions for which letters patent have been granted in the Commonwealth of Australia, exclusive of the interest of the said F. C. Perkins in the inventions as a member of the Perkins Wesley Mineral Separating Co., etc., to enter into certain agreements, and to carry on business as mechanical engineers, machinery merchants, etc. Subscribers: Frederick Jessup, Frederick Charles Perkins, John Wesley, John Rzeszkowski and Samuel Perry. Reg. office: Brown-street, West Croydon.

Victoria

Inglis, Smith & Co., ship chandlers and ironmongers, 520-22 Flinders-street, and Little Dock, Spencer-street, Melbourne, announce that Duncan Fraser Smith, senr., and Duncan Fraser Smith, junr., have retired by death from the firm.

Firms Registered

Metals Distributing Co., 97 Queen-street, Melbourne; proprietor: Daniel Anthony White.

Wm. Paterson, storekeeper, Heywood; proprietors: Robert Hamilton Paterson and Elrington Reid Paterson.

H. A. Hart & Son, general storekeepers, Eaglehawk and Elmore; proprietors: Henry Arthur Hart and Allan James Hart.

Ryall & Brock, manufacturers' representatives, 360 Post Office Place, Melbourne; proprietors: Harold Bord Ryall and Kenneth Henry Brock.

Company News

Vacuum Oil Co. Pty. Ltd. announce that the capital of the company has been increased from £6,000,000 to £10,000,000.

The Standard Steel Co. Pty. Ltd. have been registered with a capital of £10,000 in £1 shares. Subscribers: Denis John O'Donohue and William Peter Keighery. Reg. office: Capitol House, Swanston-street, Melbourne.

Simmers & Co. Pty. Ltd., ironmongers, hardware merchants, etc., have been registered with a capital of £5000 in £1 shares. Subscribers: Margaret Gebbie and William Hicks. Arthur Watson is also a director. Reg. office: 223-25 Nelson-place, Williamstown.

Sampson, Harris & Gill Pty. Ltd. have commenced business as wholesale hardware and fancy goods merchants at a'Beckett House, a'Beckett-street, Melbourne. The three gentlemen who give their names to the company were for many years with Levy Bros. Successors Pty. Ltd.

Dripless Tap (Australia) Ltd., plumbers, engineers, etc., have been registered with a capital of £6000 in 5000 £1 shares and 20,000 1/- shares. Subscribers: James Lorenzo Moore, Joseph Henry Draper Brearley, Eric Byron Moore, Henry Gower and Reginald William Stringer. Alfred Michael Nicholas is also a director. Reg. office: 422 Collins-street, Melbourne.

Miller Bros. Melbourne Tank Works Pty. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business of boilermakers, tankmakers and engineers carried on under the style of Miller Bros. Subscribers: Bert Miller and Ruby Charlotte Miller. Reg. office: 13 Yarra Bank-road, South Melbourne.

Toynes Rotary Clothes Hoist Pty. Ltd., mechanical and electrical engineers, etc., have been registered with a capital of £2000 in £1 shares. Objects: To acquire from Archibald James McKirdy and Archibald Keith McKirdy, trading as Toynes Clothes Hoists, their undertaking. Subscribers: Mary Ellen McKirdy and Archibald James McKirdy. Archibald Keith McKirdy, Leila Mary McKirdy, Kathleen Joyce McKirdy and Ian James McKirdy are also directors. Reg. office: 2 Stanhope-street, Mont Albert.

Western Australia

C. A. Robertson is opening an ironmongery and general hardware business at Northam.

Kitchen Craft, sellers of a "Waterless Cooker," etc., 117a Murrey-street, Perth, have been registered under the Firms' Act; proprietor: Charles Lesnie.

Company News

Paul & Gray Ltd. (incorporated in New South Wales) have their registered office at 23 Phillimore-street, Fremantle. Leonard Duxfield Lambert is the attorney.

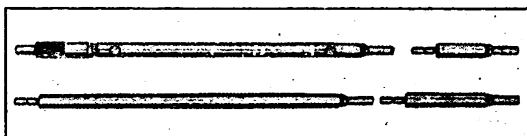
Atlantic Union Oil Co. Ltd. (incorporated in New South Wales), have their registered office at A.M.P. Buildings, Perth. Frederick Robert Boyce, Perth, is the attorney.

Machinery

New Micrometers

The Brown & Sharpe Manufacturing Co., of Providence, R.I., U.S.A., have announced two types of micrometers, the No. 276 and the No. 60 and 62.

The No. 276 inside micrometers are made in three sizes to measure respectively from 12 to 22 in., 22 to 32 in. and 32 to 42 in. by thousandths. The range of measurements of each of these is obtained by ten changeable anvils of different lengths. The shoulders of the anvils fit against the shoulders of the micrometer head, ensuring positive adjustment



to accurate measurements. They can be changed easily and are held in position by a clamp screw fitting into a V groove. Because of their tubular construction these micrometers are light and easy to handle, and can be quickly and easily adjusted. They can be locked at any reading. The measuring points are hardened and the faces ground on a radius.

The Nos. 60 and 62 micrometer calipers measure from 1 to 2 in., and from 2 to 3 in. respectively. Both styles are equipped with solid anvils and have a simple adjustment for wear on the measuring surfaces. Both can be furnished with or without standards and ratchet stops. They are not fitted with clamp rings.

Pipe Threading Machine

Bent pipes and nipples can be threaded on a machine, known as the "Rapid Rotary" pipe threader, which has been placed on the market by the Williams Pool Corporation of Erie, Pa., U.S.A. Pipe sizes from 1 to 4 in. nominal size are covered by four sets of dies, although $\frac{1}{2}$ and $\frac{3}{4}$ in. pipe can be threaded easily by means of the substitution of a special set of dies for these sizes.

This machine reams the burr formed by the previous cutting-off process at the same time as the threading is done.

Greatly increased production is featured. It was designed to give an average spindle speed of 19 surface feet per minute, regardless of the size of pipe. After the dies have been run full on to the pipe an automatic tripping device throws the dies open. This device is controlled from the front of the machine. The mechanisms controlling the chucking and releasing operations are simple and enable a saving in set-up time. Furthermore the dies have been designed to use as little tool steel as possible so that die costs on production runs are not excessive.

The machine is made very heavy to ensure rigidity, and all gears are enclosed and run in oil.

Self Aligning Hangers

The Boston Gear Works, Inc., of Norfolk Downs, Mass., have introduced a high-grade, self-aligning ball-bearing hanger known as the Type B.F.

It can be readily fastened to the shaft at any point; is capable of maximum height adjustment, and is so constructed that it remains rigid after adjustment. The shaft bore for these hangers, which are standardised is supplied in fractional dimensions.

These hangers are suitable for use as outboard bearings in connection with the operation of speed reducers and chain drives.

Protective Cream

The Merchandising Department of the General Electric Co., of Bridgeport, Conn., U.S.A., are marketing a protective hand cream. It is intended to protect the hands and arms from causes of skin discolouration and irritation encountered in many industrial processes.

Soon after application to the skin it dries and forms an invisible film which is not slippery. Subsequent washing in warm water quickly removes the film and with it the stains, which otherwise fill the pores and are hard to remove and are likely to cause infection.

This cream is packed in tubes for individual use and also 1 lb. cans for industrial uses.

Anti-Friction Centres

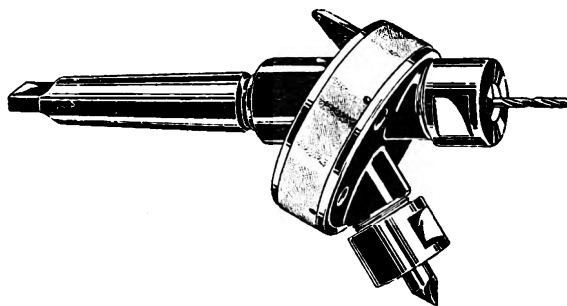
Anti-friction centres have been added to the line manufactured by the Snellx Mfg. Co., of Rochester, N.Y., U.S.A.

This centre is made for production work and automatically takes up the expansion of work by a hardened steel cushion. Lubrication on the centre point is unnecessary as the roller bearings eliminate the wear between the point and the work. The wear on the bearings is automatically taken up since both taper roller bearings bear thrusts in the same direction. A strainer at the bottom of the oil hole removes any dirt or grit from the lubricant.

This centre can be furnished in sizes up to three tons load capacity and can be made with any type of tapered shank and centre point.

Centring Head

Wearden & Gaylee Ltd., of Bradford, England, are introducing a duplex centring head with which is combined a taper shank for insertion in the lathe tailstock. It is designed to accommodate combination centring drills, the drill and countersink being held in separate collets, on a head which can be turned and registered in two position so as to bring either tool into position. Thus, the pilot drill being used, the head can be swung to bring the counter-sinking drill into operation.



A hardened steel pawl at the back ensures accurate alignment and pressure of the thumb releases the pawl, enabling the head to be turned on its axis as required. The collets are of steel, hardened and tempered, and the tools are secured by means of hardened caps. The shank mountings are separate and can be made to suit the lathe head-stocks.

These appliances can also be used in turret lathes rendering it possible to undertake two operations from one turret hole. In this way the tools can be used for follow-up purposes, in that a drill can be succeeded by a reamer or tap and so on. The appliance can be used in much the same way on a centre lathe.

Large Diameter Grinding Wheels

Vitrified "Aloxite" abrasive wheels of extra large diameter are being placed on the market by the Carborundum Co., Niagara Falls, N.Y., U.S.A.

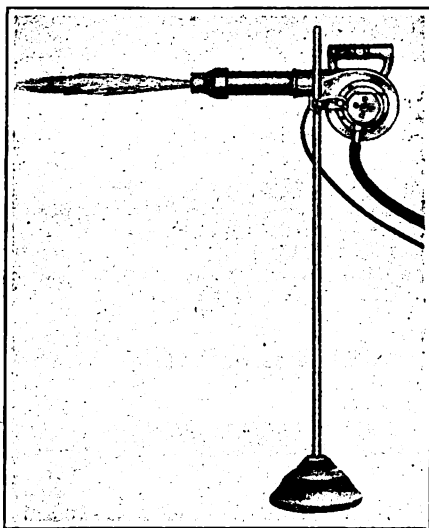
These wheels are specially designed for the grinding of automotive crank-pins and crank-bearings. They are made in 36 and 42 in. diameters. The 36 in. wheels can be furnished in thicknesses down to $1\frac{1}{4}$ in. and the 42 in. wheels in thickness down to $1\frac{1}{2}$ in.

They are claimed to be the largest thin-faced wheels on the market and to be highly wear-resisting. Made to accurate dimensions, with perfect balance, they are adaptable to any standard machine.

Portable Blow Torch

The Clements Manufacturing Co., of 609 Fulton-street, Chicago, Ill., U.S.A., have added a new blow-torch to their line of such appliances. It is intended for use in connection with welding, brazing, annealing, hardening and soldering operations, and it is claimed that uniform temperatures up to 2300 deg. Fahr. can be obtained.

The unit consists of a motor-driven torch, mounted on a stand, and equipped with an 8 ft. gas hose and a 20 ft. reinforced cable with an ar-



mored separable plug. The motor is of the high-speed, air-cooled type, mounted on ball-bearings, and can be supplied in voltages from 100 to 275. Variations in gas pressure do not affect the operating efficiency since the air-control ensures an even flow of gas regardless of the pressure in the main line. The air valve is constructed to allow for a controlled supply, thus making lower temperatures possible. Heats from 1600 to 2300 deg. Fahr. can be obtained quickly and maintained indefinitely.

Other features claimed for the torch, apart from its portability, are low operating cost, simplicity in construction and ease of operation.

High Speed Steel.

The Firth Sterling Steel Co., of McKeesport, Pa., U.S.A., have announced an improved high-speed steel to be known as "Circle C."

Tests made indicate that with this steel it is possible to cut manganese steel at speeds from 7 $\frac{1}{2}$ to 15 ft. per minute with cuts ranging from $1/16$ th to $5/32$ in., and feeds from $1/60$ th to $1/50$ th of an inch. The chip formed by this material, previously considered unmachinable, is a very tightly curled ribbon, oily smooth on the underside. Cuts as small as $1/64$ th in. could be taken. The time of cut between grinding of the tool ran from one hour to nine hours.

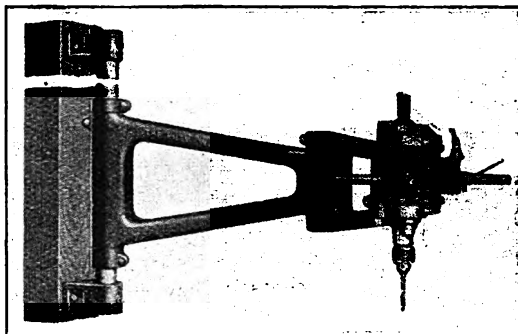
The treatment of "Circle C." steel does not differ

radically in procedure from that of other high-speed steels, but it does require a definite increase in the heats used.

Double Radial Drilling Arm

Double arms which can be swivelled through wide ranges of arcs and then locked in position constitute the principle features of the sensitive radial drilling arm introduced by the Hissey-Wolf Machine Co., of Cincinnati, Ohio, U.S.A.

The device is mounted on a ball-thrust bearing,

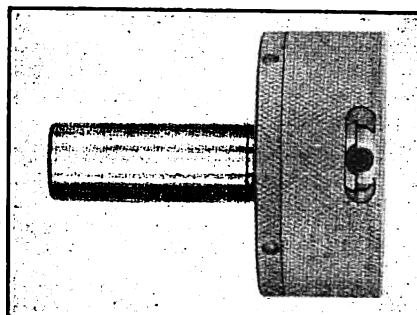


which is enclosed and dustproof. This construction reduces friction to a minimum, thus permitting quick and easy adjustment. The vertical adjustment is made by lever through a rack and pinion and equals $7\frac{1}{4}$ in. The vertical adjustment on the main column, which is $2\frac{1}{2}$ in. diam., equals 25 in. Thus a total vertical adjustment of $32\frac{1}{4}$ in. is possible.

By means of individual swivel clamps either the long or short arms can be locked independently, and if required both arms can be locked in any fixed angular position. The full arm length will swing through an arc of 240 deg., and the short arm has an angular adjustment of 245 deg. The maximum arm reach from the column is $36\frac{3}{4}$ in. The lever feed is operated through a rack and pinion as on a drill press, thus permitting positive and sensitive control. Its net weight is 215 lb.

Floating Tool Holder

Scully-Jones & Co., of 1901 South Rockwell-street, Chicago, Ill., U.S.A., have introduced a floating tool holder known as the type B.S. The holder is designed specially for use on small automatic and hand screw machines where clearance is limited. It is claimed to furnish a means of producing uniformly accurate reamed and tapped holes on all classes of equipment.



The construction is simple, permitting collets to be speedily changed for various sizes of tools. Friction has been practically eliminated by ball-bearings, and the couplings employed ensure a positive drive for the collets without interfering with the smooth floating action.

The floating action of this holder permits tools to enter work in a straight line when machine spindle and turret tool holders are off centre, but are in parallel alignment.

Pottery and Glassware

Buyers' Notes for Retail Dealers

Sydney

Baileys Ltd., of 117 York-street, Sydney, stock certain lines of pottery and glassware in addition to indent samples. New and attractive productions



of Tudor glass, made by the Stourbridge Glass Co. Ltd., Stourbridge, England, are being shown in all lines. Rose bowls and flower bulbs are in grand array, the display including a number of new shapes and designs. Water sets, whisky sets and liqueur sets are available singly or in suites to match, and footed suites of different designs are also on view. A special feature is sandwich trays in boat shape, and attention has been given this year to toilet table sets, some very tasty designs having been made. Powder boxes, scent bottles and candle sticks can be had, and a new electric light standard is a worthy feature.

A big display is made of china, Thomas C. Wild & Sons Ltd., having sent out a varied assortment of tea sets in Crown Derby decorations. Semi-porcelain dinner sets from T. W. Barlow & Sons are in stock to match the Wild products, and for the children a feature is made of sets embodying representations of nursery rhymes.

Bakewell Bros., pottery manufacturers, of Coulson-street, Erskineville, Sydney, offer this year a bigger range of jugs than ever before. Their well known squat shaped blue and white band jugs are now available in full quart size and are supplied in sets of four, or singly if desired. Formerly made only with blue or brown tops, the long shaped milk jugs can now be had in green, a recent introduction. The old barrel jugs have again come to the fore and are made in a number of sizes. A milk jug with a well fitting cover so made as to prevent the possibility of the contents being contaminated by dust is an innovation.

A large range of terra cotta ware, both plain and rusticated, is on show, and pudding bowls have been made in large quantities to meet the Christmas demand. Another line new to the firm are blue and white footed pudding basins in four sizes, and plain

white basins suitable for oyster bowls are a recent addition to the firm's output. The majolica glaze flower vases are stocked in large quantities and in a number of sizes, both the oval and waist shapes being available. Cemetery vases can be supplied with or without bases. Jardinieres are made to match the vases. The favourite blue and white bands are again seen in the afternoon tea sets made in three pieces, and dinner sets are carried as stock lines for the convenience of customers. Tea pots are on hand in all sizes, and in addition jars for the kitchen and scullery, as well as toilet sets are among the numerous lines made in the factory.

Briscoe & Co. Ltd., of 383-85 Kent-street, Sydney, are making a feature of English and Continental cut crystal and pressed glass, the display including vases of all kinds, salad dishes, rose bowls, goblets, tumblers and decanters in suites. Puff boxes, cruet stands and pepper and salt shakers are in large assortment. Oval rose bowls are an attractive feature, and a big display of china is on view, made up of basket trays, sandwich trays, tea sets, supper sets, dinner ware and so forth, with octagonal saucers and plates in new patterns. The "Comfy" tea sets with their bold colours in red, blue or green are very arrestive.

For the first time Pyrex casseroles and entree dishes are with engraved decorations, a relief from the plain examples hitherto made. A complete range can now be supplied with e.p. frames. China puff boxes are shown in new colours. Tea sets and dinner sets are shown in the latest designs and tea and coffee sets can be supplied to match. Teapots are stocked in a wide variety of colourings and shapes, Australian and English manufacturers being called upon for supplies.

China clock sets are supplied in three pieces, and trinket sets in assorted shapes are also on offer. Salad sets afford a wide choice for selection, being available in china and semi-porcelain, as well as cut crystal and pressed glass. Newly introduced are lacquered glass hand painted vases. Packed in the factory specially for buyers in the country are assorted case lots of china, porcelain and glass. Bohemian hand painted glassware comes lavishly decorated in a variety of colours, and novelty cruet sets are in great variety.

John Danks & Son Pty. Ltd., of 324-40 Pitt-street, Sydney, have landed fresh stocks of choice cut crystal to meet the coming season's demand. Among the glittering array in the show cases an oval shaped fruit bowl makes a strong appeal. It typifies the combination of glassware and nickel plate, a departure that appears to be coming slowly into favour, although glass on its own still holds the commanding position. The stand is nickel plated and the body of glass. A circular shaped fruit dish is also noteworthy, being very heavily cut, with edges on a nickel stand. Distinctive looking is a fruit salad set, consisting of a bowl and half a dozen glasses on a nickel tray. The server is supported on solid nickel feet, and stems of the same metal add smartness to the deeply cut glasses. Most striking is another fruit bowl on a brass body with four legs of uncommon shape.

Vases also call for special mention, some very fine examples from European makers being on view.

Sizes range from very small ornaments for the boudoir table to extra large and heavy, the shapes in some cases being uncommon and distinctive. Fruit and flowers afford the main theme of the decorations, silver being introduced with pleasing results in one or two cases.

An imposing array of clocks is on view, the variety of colours being exceptionally large and the materials including tortoiseshell, marble, xylonite and alabaster, all in varied shape.

An assortment of afternoon tea trays inset with mother-of-pearl should appeal to a wide circle of buyers, being most artistically treated.

John Dynon & Sons Ltd., of 93 Bathurst-street, Sydney, although they have not opened up all their shipments of new season's pottery, have a wide range to offer, there being no less than 72 different patterns of dinner sets, with tea sets to match, already on hand. The popularity of the square-shaped plates is reflected in the large number of sets in this style, although the round can be supplied if desired. Cups are more varied, but, maple and Paris shapes predominating. The patterns are smart and refined. One that calls for special mention is crowned with gold edgings and lower down is a chrome coloured band, relieved at intervals with medallions of green ferns, and these in turn are linked together with festoons of forget-me-nots and red roses. Crown Derby colourings are prominent in the display. Deep bands of powder pink constitute the main theme in the scheme of decorations in other dinner sets, the departure making a striking contrast to the popular powder blue. Garlands of flowers and fruit make an effective finishing touch to a form of decoration that has become all the rage in England. A tea set claiming attention, has an ivory body with a salmon coloured band, this being enriched with a chain of fish bone pattern, and as the decorations are all done in litho there is no danger of depreciation.

Samuel Radford & Sons are represented by an assortment of after dinner coffee sets, and while varied decorations are available one that stands out prominently has a powder blue body with burnished gold handles and decorations of gold festoons. A number of sets with Crown Derby decorations are noteworthy, the rich colourings being most effective.

The latest type of fruit sets, complete with serving bowl, have already found favour with buyers. The plates are extra deep, and surrounded by a flange, a feature being the highly coloured decorations.

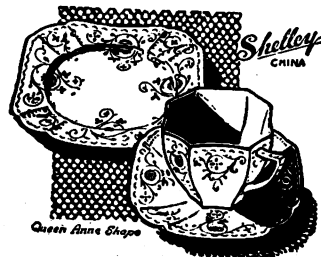
The English made autumn vases make a striking display on the shelves, being similar to Moorcroft ware, with distinctive colourings. A range of octagon jugs, in sets of three, forms a new and attractive feature, the squat pattern of the jugs making them suitable for use in ice chests. The colours of the body vary, being mauve, tangerine, blue and green, with white necks. Floral decorations and gold edges make an effective set off to the whole.

W. S. Friend & Co., of 113 York-street, Sydney, make a good showing of crystal glass of all kinds, goblet shaped flower vases taking a prominent place in the display. Salad bowls in oval and round shapes are available with glass servers, and another line has e.p. bands round the top. Pyrex casseroles can be supplied with e.p. frames, so that they can be taken direct from the oven to the table. China is offered in good variety of patterns, and the old willow is seen on salad bowls, while rose bowls can be had in antique frames. Biscuit barrels are on hand in new styles and shapes, while cruets are also offered. Sugars and creams as well as butter dishes go to make up a fine display.

In anticipation of the summer trade, large stocks have been accumulated of "Prana" sparklet syphons and De Freres seltzogenes. Fruit preserving jars

are in stock bearing well known brands, the "Utility" being specially recommended because its extra large mouth promotes easy cleaning.

T. W. Heath & Co. Ltd., of 232 Clarence-street, Sydney, are now showing stocks of Shelley china of the Queen Anne pattern, comprising tea sets



and coffee sets in a wide variety of styles and patterns. One popular line is plain white outside, with blue, pink, canary or mauve inside the cups, the plates having golden edges. Coffee sets to match can also be supplied. Supper sets are on hand with the choice of a number of decorations varying from white and gold to those with rich colours. For the children the "Playbox" series of tea sets are featured. Baby plates are also an attractive feature of this section.

From Burgess & Leigh Ltd., comes a fine collection of Burleigh ware, in stock patterns. "Satsuma" is the name given to a series of dinner, tea and coffee sets in Crown Derby style. Vases and jardinières in fancy colours are available in a great many shapes and sizes.

From Price Bros. Ltd., come earthenware tea pots depicting Dickensian subjects, and another very attractive line is that showing mahogany colouring, with silver handles and edges. The same ware shows forest scenes, with gold handles and tips. Tea pots and tea pot sets are also available in variety to suit fastidious buyers.

Cut crystal makes a brilliant display, Henry G. Richardson & Sons, a Staffordshire firm, sending a large proportion of the stock on view. Belgium is represented by cut crystal of good quality from the works of Val. St. Lambert.

S. Hoffnung & Co. Ltd., of 163 Pitt-street, Sydney, make an exceptionally large and varied display of cut crystal.

Electric lamps are varied in size, suitable for dressing or dining tables. Candle sticks are featured with the old fashioned clusters dangling from a glittering canopy, most elaborate articles and fit adornments for well furnished rooms. Liqueur sets are supplied on glass trays, the decanters being squat and the glasses made to match. All shapes and sizes of decanters are available.

Royal Albert and Crown Derby style china tea sets and supper sets to match make a brave show. One of these has a gold edge, then a chain of floral decorations, below this again being a band of gold, followed by a band of lace work. Another has a powder blue edge embellished with primroses. Coffee sets and supper sets are gaily, if not gaudily covered, and can be supplied in wide variety. This season dinner ware has taken on brighter decorations, and can be supplied with supper sets to match. All are richly treated. A new line of jugs squat in shape, have safety handles. That is to say the handles are level with the body of the jug, the sides being indented to enable the handles to be grasped. Teapots are also richly coloured and a wide range of squat and tall shapes is offered.

Keep, Macpherson Ltd., of 252 George-street, Sydney, are showing a big range of English and Continental cut crystal, including a great array of

electric table lamps with coloured globes. Water and liqueur sets, vases, comports and toilet sets help to make up a fine display.

China is in most cases gaily decorated, a reversion to days gone by being shown in the hand painted Georgian dinner and tea sets. Tuscan china is available in a wide variety of patterns. Pink and powder blue are largely used in the latest styles enriched with floral ornamentations. Very tasteful and neat are the tea sets available in light green or chrome, the outside of the cups being white, surmounted by a simple gold edge. New style soup dishes are a feature of another set, the whole suite being richly ornamented with circles of gold, blue and grey lace. Black coffee sets are available in a wide variety of patterns. Very striking is a set with gold handles, the upper portion of one side of the cups and jugs being light grey lustre, relieved with lace work effect and the lower portion light brown, hand painted pictures adorning the other side. The old Wilton pattern is again coming into favour, the red colours interspersed with the blue being most effective. Fruit sets with their appropriate decorations are an interesting feature.

Tables carrying gaudily covered vases make an attractive display. Royal Doulton ware is well to the fore, Dickens and Izaak Walton being called upon to furnish the quotations and pictures adorning the ash trays, tobacco jars, ornaments, vases and similar lines now in stock. Australian birds in natural surroundings are a feature of this section. Water sets are available in shaded glass.

Lyon & Milling, of 62 Clarence-street, Sydney, have received fresh shipments of pottery and glassware and are in a position to offer storekeepers a wide choice of selection. The firm specialise in the supply of assorted cases packed at the factory, and it is found that the system saves costs in a number of ways. Housewives should be interested in the glass oven proof pudding bowls, supplied in assorted lots. The range of glassware includes both the Stuart and Tudor makes. Among the vases are a number of various sizes having a patent inset to hold the flowers. The "Kookaburra" and "Canberra" cut suites are exclusive to the firm both as to cutting and shape. Breakfast cruets are shown in wide variety, some of the new patterns being specially attractive. Four toe orange bowls of large size are supplied in both oval and round shapes, and are cut and etched in the American style. A globe shaped table centre is uncommon, and trinket sets for the dressing table consist of eight pieces on a glass tray. An American made series of glassware consists of whole suites to match, sugars, bowls, butters, vases, jams and even dressing table sets. For the lower price trade there are honeys, sauces and similar lines, as well as hotel glassware. Floating china bowls with bird centres are suggested as suitable presents, and jardinieres are offered with and without handles. A large range of dinner sets is available, including the Selwyn illuminated ware with gilt edges. Tea-sets are supplied by the leading manufacturers, the stocks of Foley and Phoenix china being extra heavy. Foreign makers have also sent supplies and from this source are offered popular tea sets in a variety of patterns. Satin glass rose bowls and toilet sets are stocked in a number of colours. The "Father" and "Mother" cups and saucers can be supplied separately or with dinner sets to match. A novelty that is taking well are the fortune telling tea cups, supplied with guides and singly or in sets if desired.

Mr. H. M. Schoffel, of 53-55 York-street, Sydney, makes a big display of hand cut crystal, pottery and e.p. ware. Although only the samples are being sold to make room for a fresh range, they are all available right away. Different values are re-

presented—dear, medium and cheap. Among the hand cut crystal are heavily cut salad sets in seven pieces to match, a notable feature being that cleverly etched representations of fruit decorate the bottoms of each piece. A useful novelty is a hand cut fruit stand which can be reversed and used as a salad bowl. A fine exhibit is made of vases, which are available in a large variety of shapes, and very smart looking are the fruit, flower or cake stands in the popular boat shape. Liqueur and sauce bottles in long or squat design are heavily cut, and decanters offer a very wide choice for selection. Electric light standards are shown with canopies of red crystal inset with white stars, or frosted canopies relieved with similar embellishments.

Most attractive are the tea and coffee sets in turquoise blue and white upright stripes, and by way of variety, green, canary, sunrise and other colours alternating with white stripes. Biscuit barrels, round, square and oblong shapes, jugs and other richly decorated household articles are also on hand, with e.p. mountings. Tea sets are also on hand in powder blue, pink and tango, all with black borders.

John Shorter Ltd., of 193 Clarence-street, Sydney, make an imposing display of hand cut crystal from the Edinburgh and Leith Flint Glass Co., a feature of the products being the deep and heavy cuttings. A new style electric light standard attracts attention, and an assortment of rose bowls are set off with e.p. holders. Trinket sets for the toilet table and novelties in the way of crystal bells, egg cups and serviette rings should make a strong appeal in the season of gift giving.

On behalf of Thomas Webb & Sons Ltd., a number of beautifully cut water sets are being shown. Candlesticks, decanters, sugars and creams, champagne sets and jugs in a large variety of shapes and designs are available, and a wide range of fruit sets and comports are also offered.

Pottery makes a splendid showing, and the Royal Doulton ware forms an important feature of the exhibit. A large assortment of Chinese vases of the Chang, Sung and Flames periods are available, together with hand painted vases and bowls. A happy diversion is shown in the vases, ornaments, jugs, trinkets and so on showing characters from Dickens as well as those of the Victorian era, and to bring the series up to date some ultra modern figures are on view. A line of hand painted and gold worked service plates can be seen side by side with a popular series covering characters from Burns, Dickens, Shakespeare and old English coaching scenes. "Autumn Glory" is the apt name given to tea ware showing the beautiful tints and colours of an English autumn, and another very worthy note is struck with pictures of castles and cathedrals of England. Tea ware in dainty shapes and uncommon designs is available together with coffee and supper sets to match. Grafton tea ware is available in twenty-one piece sets.

Mr. Geo. W. Snook, of 127 York-street, Sydney, has received fresh stocks of dinner tea ware from Wedgwood & Co. Ltd., of Tunstall, Staffordshire, as well as Grindley and Johnson, chinaware, the range being exceptionally large. In addition, the Johnson china is shown in white and fancy patterns. The fashionable octagonal plates are available in dinner tea and coffee sets. Vegetable dishes are supplied to match the plates. Narrow borders are now popular in place of the heavy patterns formerly in vogue. Crown Derby designs are also in evidence, but with narrow borders. The new coupe soup plates are supplied with all dinner sets.

Teaware makes a splendid showing, a number of the leading English manufacturers being the contributors. While it is difficult to pick out specific examples from among so many, a teaset of Aynsley china is among the most attractive. "Melba" china

is well to the fore, the old willow patterns being as popular as ever, and a large selection of Crown Derby patterns is also available. Toilet ware is shown in plain art colours, as well as in lustre, lithos and glass.

The tables given up to cut crystal glisten with stocks from Stuart, Orrefors and Brierley. Vases are seen in all shapes and sizes with water sets, goblet sets, whisky and liqueur sets available, en suite or of different patterns. A display of handsome cut glass clocks is also made, and there is a big showing of pressed glass.

W. G. South & Cowan Ltd., of 352 Kent-street, Sydney, have uncovered consignments of English cut crystal comprising a complete range in new shapes, designs and cuttings. An oval shaped rose bowl attracts attention not only because of the uncommon design, but also because of the heavy cutting. A big assortment of small rose bowls with centres is another interesting feature. Medium rose bowls, very richly cut, include the new semi-oval shapes. The bell shaped vases have caught the public fancy. Medium size punch bowls make a brave show, all being heavily cut and moderately priced. Fruit salad sets are noteworthy, the fruiter being footed and all the pieces pear shaped. Rose bowls are specialised and so, too, egg cups with saucer feet. A good assortment of water, spirit and liqueur sets is on view. Very striking is a vase of crumpet shape, an uncut strip on one side serving to show up the deeply-cut ornamentations. A table of Australian made glassware carries a whole range of jugs, sugars and creams, vases and other articles.

In the pottery section is a grand array of every line, from complete dinner sets to the smallest vase, including jardinières with the new mottled lustre effect. In keeping with the trend towards brightly coloured pottery there are salad sets in jazz effects, with tea sets and vases to match. Suitable for a medium class trade are tea sets from English and Continental makers. Of higher class are tea sets in Crown Derby styles with square plates and supper sets to match. Likely to find favour are the Georgian pattern tea sets and coffee sets, an old style that is again coming into fashion. The Collingwood tea sets and supper sets stand out prominently with their fruit and floral decorations. To match there are fruit and salad sets and morning tea sets. A departure is made in the Royal Staffordshire fruit sets, the bowls having hollow places round the edges for the peelings and seeds. "Dorothy" sets of white and gold are noteworthy in this that missing pieces can be matched at any time from stock.

Swans Ltd., of 410-12 Elizabeth-street, Sydney, make a big display of fireclay work, such as sinks specially made for use in hospitals. Combination sinks and drainers for the kitchen are also on view, with and without high backs. Fire clay wash tubs can be supplied and a feature is made of combination sinks and washtubs for use in flats. The "Frostilla" brand electric lamp fittings can be supplied in a wide variety of shapes and decorations as well as plain and tinted. A point worthy of note is that shades are made in a series to match, but of various sizes for use in the hall and different rooms of the home. Sections of the show room are fitted to show the shades as they would appear in actual use.

Willis & Sons Pty. Ltd., of 50 York-street, Sydney, have available glassware of the latest designs and patterns. Footed fruit bowls fitting into cake dishes are a novelty, and oblong sandwich trays are extra heavily cut. Glass cake dishes of circular shape and finely etched with appropriate designs should prove a popular line. Vases are in all shapes and sizes, while extra large table lamps

can be supplied with globes of different colours. Water sets can be had in many shapes and designs, the quality varying from pressed glass to the finest crystal. Bell shaped rose bowls, with centres, should prove a profitable line to stock, and equally attractive are round, square and oblong trays. Water sets can be supplied in a number of designs and serviette rings to match can be had if desired. Salad bowls with glass servers make a special appeal because of their bell shape, and liqueur sets can be supplied to match the bowls. To further add to the range a bell shaped vase is also available the whole series being finely etched with fruit and floral ornamentation. Among the vases are a number of different sizes of basket design, bearing representations of the Scotch thistle. A large claret cup bowl makes a fine showing among the smaller samples. Vases on square pedestals strike a new note. Exclusive is a whisky set with the popular stirrup glasses, the decanter being egg shaped. For the toilet table are trays with half-a-dozen pieces of various designs and richly cut.

Melbourne

Mr. R. M. Hall, of 185-89 Queen-street, Melbourne, has an array of china and glass which shows considerable taste in the selection. A visit to the showroom is well repaid.

Among the new attractions are some exclusive designs in stock pattern dinner ware and tea ware combined, including all odd pieces likely to be required on the table. The "Trafalgar" pattern, for example is a striking design, executed in octagon shape, on ivory body with black and orange. This is in stock and is quite inexpensive. It should prove an excellent seller.

An extensive department is devoted to glass ware. Here is a Polish ware of fine white colour, the shapes being uniformly good. In addition to the household glass, a large range of crystal is available from both English and continental factories.

Among the decorative goods a comprehensive assortment is shown in "Moritake" ware. This is perhaps equal to any similar line for value, the price being remarkably low, while the appearance and finish are really good. This brand of china, together with a number of continental novelty and gift suggestions, offers a welcome range for this time of the year. In the higher grades also there will be found specimens from leading potteries in England. In this category may be mentioned "Crown Ducal," "Byzanti," Moorcroft and Carlton ware, displayed in decorative art pottery which gives ample scope for selection.

Henry F. McCrea Pty. Ltd., of Arco House, Cole's-lane, off 292 Little Collins-street, Melbourne, carry a good collection of china and crystal glass. They specialise in Doulton ware in the china department, and "Edinburgh and Leith" in crystal. In this way it has been possible to gather together a pleasing range, giving at the same time a wide choice to buyers.

The newest tea sets in this make are obtainable in many designs and shapes, a feature being the square plates which are so popular now-a-days. The decorations are carried out in the newest styles associated with this class of china. The various designs are supplied with all Doulton shapes, so that dinner, tea, or fruit sets may be had in an exceptional selection. By the series plan of shapes it is possible to obtain a complete set of domestic ware in any Doulton decoration. The "coaching" design, for example, is to be had in fruit sets and other useful articles such as sandwich trays, etc., from which a uniform service can be made throughout, and which may be replaced or added to as required.

Another section is devoted to ornamental china, and here many excellent specimens are displayed,

Vases and bowls are often hand-painted by the best Doulton artists, with a special range partially treated by hand. In every case the result is most pleasing. Some of the better class pieces reach a high order of art. These include original bowls and vases decorated by Holdcroft, Eaton, Hart, Stevenson and others. They are in single pieces only, and cannot be repeated. Similar exclusive examples are in the Doulton "Sung" and "Chang" ware, each of which is signed, and represents what are probably some of the finest of modern work of the kind.

A new departure in the wholesale trade is the introduction of stock patterns of "quality" dinner and tea sets. Previously this has been done in the case of the cheaper types of earthenware, and the extension of the idea to better class china will be welcomed by many dealers.

The Scottish brand of crystal known as "Edinburgh and Leigh" is regularly stocked. This is a crystal of good bright colour and attractive designs, and is obtainable in all table utensils as well as in Peach Melbas, salad bowls, footed sweets, toilet boxes and lamps. Several new patterns are shown in square powder boxes, while an oblong cigarette box will strike many as a novelty. A feature of this crystal is the weight of the glass, and also the "ring" which is so prized by the discriminating customer.

In the case of suites this firm carries stock patterns from which any article may be obtained, breakages being in this way easily replaced.

Neale Harrison's Successors Pty. Ltd., of 148 Queen-street, Melbourne, are well stocked with earthenware, china and glassware.

Besides the usual supplies there are many lines specially for the Christmas season, ornamental china and glassware make excellent gifts, and retailers will find it profitable to select an assortment of this ware for the purpose. Fancy china includes ornaments of various kinds, animals, children and other figures, which may be had here at prices to meet all requirements. An attractive series is displayed in plaster work, bronze finished of statuettes, often of famous art figures, which are good to look at and inexpensive to purchase.

Mention should be made also of "Beldray" ware, which comprises fruit stands and comports, rose bowls, fruit bowls and baskets—usually glass lined; this type of ware is finely made and finished in brass, and makes a good store or window display.

In crystal cut glass the range offered is very complete. Some of the continental makes show a wide selection of designs and shapes in all useful articles. Again comes the suggestion of gifts, in connection with crystal glass, which is always welcomed by the recipient.

Included in a large variety of china are Tuscan tea sets in 21 and 40 pieces, with black coffee and saucers to match—and the Tuscan white china which is always popular. Aquasley ware is in both teas and desserts, the same applying to Worcester and Crown Derby. Meakin's dinner ware is available in 26, 32, 51 and 63 pieces—all of which are stock patterns. Royal Doulton is represented by an attractive assortment of jug sets. Salad bowls, jardinières and other pieces.

Grimwade's "Byzanti" ware comes in floating bowls, fruit dishes, comports and vases. "Moorcroft," which is in most handsome tones, may be had in vases, bowls and ash trays—a nice collection. Another decorative range which strikes the eye is the "Adderley" ware. This is shown in an electric blue that never fails to attract. In this selection also comes Imperial Amphora pottery, which takes its title from the ancient Greek vessels of that name. Following the originals, the makers to-day have aimed at reproducing the same blend of colours. The prices are reasonable, and the work exceptionally good.

In addition to plain glassware of all kinds, including tumblers which are specially good value, a supply is constantly kept of white and gold ware, including cups and saucers, plates, slop basins and creams.

Sampson, Harris & Gill Pty. Ltd., of A'Beckett-street, Melbourne, who have commenced business recently as fancy goods and hardware merchants, carry a selected range of pottery and glassware. In deciding to handle this class of ware the firm have paid special attention to various lines which represent the highest value. Buyers may be sure of the newness of all the designs displayed, and the absence of old or unsaleable patterns.

The Crown china tea sets should appeal to retailers for the fine tones of the decorations and the excellent shapes offered. Another good type of set is the Coronation, with pleasing blue and gold borders, and very reasonably priced. Amongst other decorative ware the "Medkan" designs particularly attract. The handsome gold patterns give a bright appearance without being in any way over-done in colour. This ware may be had in a selection of domestic articles: jugs, teapots on stands, rose bowls, vases, and biscuit holders with neat wicker handles.

Besides an assortment of glassware of all kinds the plain kitchen earthenware such as pie dishes, pudding basins and butter coolers may also be obtained in all sizes.

L. J. Wahlers & Co., 317 Flinders-lane, Melbourne, carry stocks of Stuart crystal glass, from which retailers may obtain any designs required. This ware has become a household commodity, and with the approach of the gift season a selection of crystal solves many a problem for the donor of Christmas presents.

As usual there are several new shapes and patterns of Stuart ware now available. Dressing table lamps are to be had in a choice of sizes and cuttings, the same applying to vases, jugs, dessert services, wine glasses and goblets and bowls. In all these articles there are many at a very moderate price. Without any sacrifice of the quality of the material, patterns in the cheaper glass are merely less intricate in the cuttings. The colour and finish of this ware make it a valuable addition to the store or window display.

Stock patterns are maintained in table services which allow any piece to be quickly replaced. The new footed cake stands should also be mentioned.

It is noticeable that wine decanters are again in favour, while many dressing table ornaments, such as trinket sets and trays are useful additions to the stock of Christmas novelties.

The firm also make an interesting display of Continental fancy china for this period of the year. Handled sweets dishes, comports and a large selection of articles suitable for gifts, are displayed at prices which should ensure turnover. The finish and decoration of these are of a high order.

Effect of Various Pipe Metals on Water

(From "The Electrical World")

Results of experiments undertaken in an endeavour to ascertain the cause of corrosion in water pipes and fittings indicate that whatever pipe is used a certain amount of metal will be taken into solution by the water and this amount varies under different conditions and with different waters.

Galvanising an iron pipe prevents to a large extent the absorption of iron, but zinc is taken into solution as long as the galvanising lasts. Brass pipe yields a large quantity of zinc, but generally only small amounts of copper. Copper pipe yields only about the same amount of copper as brass pipe, but zinc is not involved in the corrosion of these pipes except occasionally.

Profits and Turnover

"The Mercantile Gazette of New Zealand"

Profit should always be reckoned on turnover, and this should be considered an axiom in trading. It must never be forgotten that no profit is earned until a sale is made, and that therefore the percentage of profit on cost is not a true indication of the result of the business. We have known of cases where traders have come to grief through reckoning profit on cost. Commissions, discounts and special concessions are always calculated at a percentage off selling price so that unless a definite percentage of profit is fixed in relation to the turnover, it might easily happen that the whole of the profit would be given away in allowances. A simple illustration will convince the most sceptical on this point: John Jones, a boot manufacturer who reckons his profit at fifty per cent. on cost, and allows five per cent. cash discount, ten per cent. commission, and a special trade discount of ten per cent., is approached to execute a specially large order at a trade discount of twenty per cent. He may accept the order with the idea that he will still be making fifteen per cent. profit, but this is how the proposition works out:—

Sale Price	£50 0 0
Profit 50 per cent. on cost, or 33 1-3 per cent. on turnover	16 13 4
Cost	£33 6 8

Invoice for £50 of goods sold:—

Full Selling Price	£50 0 0
Trade Discount 20 per cent.	10 0 0
	£40 0 0
Cash Discount 5 per cent.	2 0 0
	£38 0 0
Commission 10 per cent. on £40	4 0 0
	£34 0 0
Net Profit	0 13 4
	£33 6 8

The net profit works out at 2 per cent on cost or 1 1-3 per cent. on turnover.

The accepted commercial practice is to ascertain the exact cost of placing goods in a condition ready for sale and fix the selling price at such an amount as will return a percentage of gross profit sufficient to cover all overhead expenses and leave an adequate margin of net profit. As all the overhead expenses of a business are, or should be, calculated on a properly constructed percentage statement at so much per cent. on the turnover, it is imperative to reckon the gross profit likewise. If overhead expenses average ten per cent. and it is desired to show a net profit of ten per cent. after allowing, say, five per cent. for discount, it is apparent that the gross profit must be twenty-five per cent. Some traders overlook the point that in order to obtain a gross profit of 33 1-3 per cent. it is necessary to add fifty per cent. to the cost of the goods. There is a simple formula by which the percentage

on cost can always be ascertained:—If a profit of 25 per cent. is required on turnover, what percentage must be added to cost?

Sale Price	£100 0 0
Profit	25 0 0
Cost	£75 0 0

Divide the gross profit, i.e., £25 by the cost, and multiply by 100, thus:—

$$\frac{25}{75} \times \frac{100}{1} = 33 \text{ 1-3 per cent.}$$

If a profit of 40 per cent. is required the figures would be:—

Sale Price	£100 0 0
Profit	40 0 0
Cost	£60 0 0

$$\frac{40}{60} \times \frac{100}{1} = 66 \text{ 2-3 per cent.}$$

In commerce percentages are invariably based on sales because as we have already stated, the question of profit cannot enter into a business transaction until an article is sold and therefore there can be no reliable basis for percentage of profit other than the selling price. Another factor to be considered is that the purchase price of an article is often made up of various amounts subsidiary to the actual price. Then, too, the amount of purchases may not bear any definite relation to the amount of business transacted, for the stock at the end may be much greater than the stock at the commencement of the period. Twenty per cent. gross profit means that there is £20 on a sale of £100 not on a sale of £120. Thus the sales will always represent 100 per cent.

One reason why profits should be calculated on turnover rather than on cost is that if a trader is to do business on a sound basis he must secure an adequate return on his capital that is invested in goods and in the working of the business generally. If a retailer has marked his stock to show him a gross return of 30 per cent. on turnover, and the various expenses aggregate 25 per cent. he will know that out of every £100 worth of sales, £70 is represented in prime cost, £25 is what he pays for rent, salaries and other expenses and £5 is what he has left for his own profit and interest on his capital.

Drop in Antiques.

Maid: "You know that old vase, Mum, you said 'ad been 'anded down from generation to generation?"

Mistress (anxiously): "Yes."

Maid: "Well, this generation 'as dropped it."

Electrical Notes from New Zealand

(Specially Contributed)

Tauranga Power Board has decided to take a poll of ratepayers on a proposal to raise two loans totalling £25,000.

Preliminary steps are being taken to form a new power board, to be called the Hurunui Electric Power Board, which will operate in the South Island countries of Amuri, Waipara and Cheviot.

Dannevirke Power Board reports that applications for installations and additions are coming to hand freely, especially for milking motors and dairy type water heaters. Consumers now total 1900 and services 2501.

Auckland Power Board's supplementary loan of £40,000 for the purpose of carrying out works in respect of which a loan of £400,000 was raised in 1925 has been authorised by the Loyal Government Loans Board.

The following loans have been authorised for electrical works:—Te Awamutu Power Board, £5000, portion of £25,000 for extensions to electrical supply; Auckland Power Board, extension supplementary loan, 1928, £40,000.

A systematic re-test of all installations in the central area which have been connected for more than five years is being made by the Christchurch City Council, additional inspectors having been appointed for the purpose.

Cambridge Power Board reports a very satisfactory increase of business. More people are gradually availing themselves of electric service, while old consumers are finding further uses for current and are increasing their demand.

Waitemata Power Board has, during its period of operation, advanced a total of £23,375 to consumers for electrical installations and equipment, an average of over £6 per consumer, excluding Devonport. Repayments of principal total £12,417, leaving a balance of £10,958 owing.

Hutt Valley Power Board now has 684 ranges connected to its supply system, which works out at 1 range to 11 consumers. Corresponding figures for several other power boards are as follows:—Franklin, 1 to 16; Dannevirke, 1 to 20; Thames Valley, also Central (Hamilton), 1 to 21.

Satisfactory progress is being made with the electrification of the Christchurch-Lyttelton railway and tunnel. The boring of the sides and roof of the tunnel, and the installation of the fittings to carry the overhead wire, have been finished. The wiring of the tunnel will be done in the final stages of the work.

Auckland Power Board, the largest in the Dominion, now has a total of 45,000 consumers and additional installations are steadily being made. The peak load at the board's King's wharf steam generating station is approximately 24,000 kilowatts, while the average load maintained is 21,000 kw., representing a consumption of 320,000 units of electricity every 24 hours.

Due to the efforts of the Marawatu-Oronā River Board, farmers in the neighbourhood of those rivers will in future have much earlier warning of im-

pending floods. Electric flood-rise indicators connected up with the post office, are to be installed at the Manawatu and Oronā bridges and warnings will be sent by both radio and telephone.

Marlborough Power Board has made a change in the method of selling electric ranges to consumers. Instead of charging landed cost plus 5 per cent. for handling, with a charge of £5 for servicing and fitting, as was done when business with ranges was brisk, the board will now supply the ranges at landed cost plus 10 per cent., consumers to make their own arrangements for installation.

Wairere Power Board's domestic tariff has been amended as from October 1, the maximum charges being as follows:—9 k.w., £26 p.a.; 10½ k.w., £29 p.a.; 12 k.w., £34 p.a.; 13½ k.w., £36 p.a.; 15 k.w., £40 p.a. A margin of 1 k.w. will be allowed on any of the above k.w. installations, and the maximum charge will be proportioned according to the period the equipment has been installed.

A report on the first year's operation of the Waihopai hydro-electric scheme was recently put before the Marlborough Power Board by the engineer. When the plant started last August, 13½ miles of line had been erected, while to-day a total of 257 miles is in operation. This includes the whole of Kaituna Valley, Havelock, Mahakipawa, and the complete Seddon and Ward area. The total number of consumers is now 1739, including 145 with ranges, 127 with water-heaters and 174 with motors. The total revenue for the period was approximately £12,194.

A serious fire occurred in the transformer house at the Horahora hydro-electric power station on the night of September 1. Fortunately the greater part of the building was saved. The inter-connection of the supply systems enabled power to be made available from various smaller plants in the affected area, and this, together with some 3000 k.w. fed back from the Auckland Power Board's steam station, helped to satisfy urgent demands for power. Arrangements have since been made, by means of an additional bank of transformers, to give a supply of 4900 k.w. or a little less than half of the normal output of the station.

Hamilton Borough Council has approved the following scale of reduced charges:—

Lighting: up to 100 units, 6½d. per unit, less 1d. discount; 101 to 500 units, 6½d., less 2d. discount; 501 units and over, 6½d., less 2½d. discount. Power: up to 300 units, 2½d., less ½d. discount; 301 to 500 units, 2d. less ½d. discount; 501 units and over, 1½d., less ½d. discount.

Water-heaters: 10's per annum for 100 w. between 10 p.m. and 8 a.m.; 20's per annum for 100 w. cut off during peak load hours only; 35's per annum for 100 w. continuously (consumers on the 10's and 20's rates to provide time switches).

About one hundred men are at present employed on preliminary work in connection with the Waitaki River hydroelectric scheme and the number will be increased when the required accommodation is available. The incorporation of the power-house as an integral part of the dam marks a novel feature in hydro-electric construction in New Zealand.

The control room and the switchgear chamber will be built above the generator floor. Provision is being made for the installation of five generating units each having an output of 15,000 kilowatts, but only two will be installed in the initial stage, the others being put in as required by growth of load.

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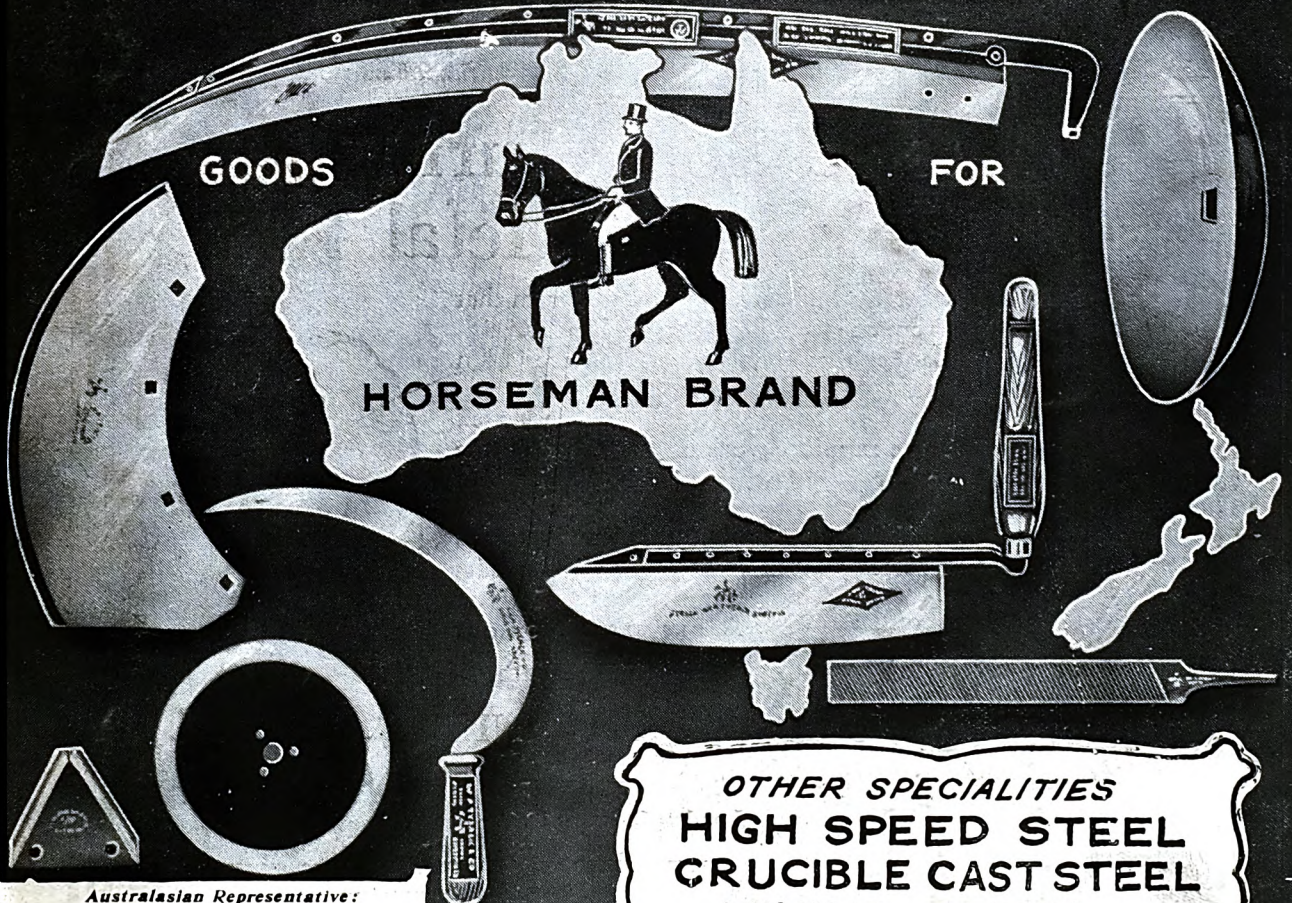
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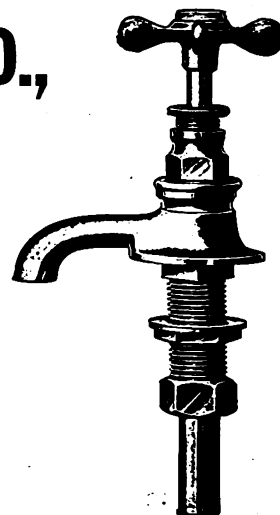
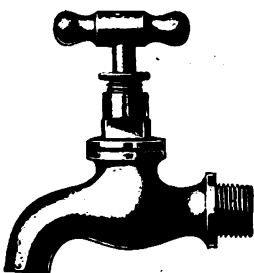
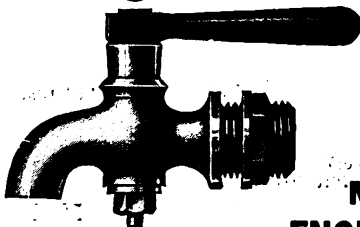
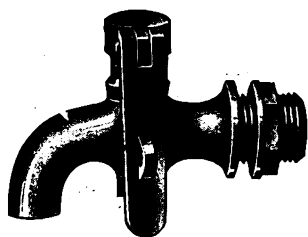
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Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

Wall Plugs.

In our issue of July last mention was made of "Metlex" wall plugs, for which Motorite Equipments Pty. Ltd., of 213-15 Queensberry street, Carlton, (Melbourne), are agents.

Since these have been introduced to this market they have met with the approval of the trade, and may be seen displayed in leading hardware stores. Packets are now available containing 50 or 100 plugs, from No. 3 to 20 (standard wood screw sizes) and in lengths from $\frac{1}{2}$ to $2\frac{1}{2}$ in. to suit all needs. These are in addition to the assorted set of 30.

Chief of Gold Coast at Gun Works

"The Sporting Goods Review" recently told of a visit paid to the works at Birmingham of Westley, Richards & Co. Ltd., by the paramount chief of the Gold Coast, Nana Sir Ofori Atta, K.B.E. Mr. Charles Gardner, one of the directors, did the honors, and the distinguished visitor, in gorgeous robes and metal helmet, showed a sportsman's knowledge and appreciation of all that he saw. Before leaving the works he placed an order with the firm.

Mr. Albert Adams, of 277 Clarence Street, Sydney, is the firm's Australian representative.

British Manufacturers Extending Operations

Mr. C. O. White, of Hardware House, Melbourne, who recently returned from a business trip to England, gives some interesting facts about several manufacturers for whom he holds the Australian representation.

James Russell & Sons Ltd., of Wednesbury, makers of galvanised and black tubes and fittings, have completed a large plant built on the most modern lines. The construction and equipment of this factory occupied two years, and necessitated the collection of machinery from various parts of Europe in order to secure the best and most efficient types for every process. The entire production from raw material to the finished pipes is carried out on the one floor, and under the one roof, the dimensions of the mill being a little over 1000 ft. in length by 300 ft. in width. Every machine and every operation is handled electrically throughout the works.

Hyde & Sons, of Wolverhampton, well known as manufacturers of plumbers' and engineers' brass-foundry, have installed a remarkable plant for the production of hot-pressed stampings, a form of brasswork which has recently come into prominence.

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These stampings are rapidly taking the place of brass castings, and may be obtained in any kind of fittings, where castings have hitherto been employed. The special machines used in this process are not only intricate and costly but require complete alteration for every new design to be turned out. Hot pressed stampings are not, therefore, suitable for small quantities of brasswork, but for mass production of parts the advantages over the ordinary castings are overwhelming. By this method the utmost precision of measurements and weight is assured, as well as perfect uniformity and great strength. The cost also is much lower, something like a third less as compared with castings. The firm are now prepared to quote for quantities of hot-pressed brass stampings from submitted samples, with guarantees as to quality and sizes.

Another manufacturer represented by Mr. White is the British Malleable Iron Co., of Birmingham, who supply malleable gas and water fittings of all kinds. Samples of these, open for inspection, show that the quality and finish are excellent.

Foreign Exchanges

Par.	—	—	Oct. 23	Oct. 25	Oct 29	Nov. 5
4.886	New York	Dols to £	4.84 ³¹ / ₃₂	4.85 ¹ / ₃₂	4.84 ¹ / ₃₂	4.84 ²⁹ / ₃₂
4.866	Montreal ..	Dols to £	4.85 ¹ / ₃₂	4.85 ¹ / ₃₂	4.85	4.85 ¹ / ₃₂
25.225	Paris	Frcs to £	124.20	124.15	124.15	124.15
35.000	Brussels ..	Bels to £	34.89	34.89	34.89	34.98
25.225	Milan	Lire to £	92.60	92.60	92.60	92.60
12.107	Amsterdam	Florin to £	12.09 ¹ / ₃₂	12.09 ¹ / ₃₂	12.09 ¹ / ₃₂	12.09
12.107	Batavia ..	Gul to £			12.10	12.09 ¹ / ₃₂
18.159	Stockholm	Kron to £	18.15	18.14	18.14	18.14
18.159	Oslo	Kron to £	18.19	18.19	18.19	18.19
18.159	Copenhagen	Kron to £	18.19	18.19	18.18	18.19
20.43	Beilin	Gmks to £	20.36	20.36	20.35	20.36
24	Bombay ..	Pento rup				18 ¹ / ₂
24.58	Yokohama	Pento yen	23 ¹ / ₂	23 ¹ / ₂	23 ¹ / ₂	23 ¹ / ₂
*	Hongkong	Pen to dol	24 ¹ / ₂	24 ¹ / ₂	24 ¹ / ₂	24 ¹ / ₂

*Par depends on rise and fall in price of Silver.

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Editorial

The Attitude of the Employee

In the United States of America few hardware dealers are better known than Hamp Williams. He is growing grey in the business, but retains his "pep" as an American might say, and is still a forceful speaker at trade conventions. Recently through "Hardware Age" he brought forward a question of importance as he regards it—"the common attitude towards our business of our employees."

Mr. Williams says in effect that while his employees receive consideration from him they show little consideration for him. With his firm, salaries are on the after-war level when good profits were being made, while every employee of their's receives ten days holiday leave yearly, and no deduction is made for absence through illness. His firm made no money last year and are not likely to make any this year, indeed they lost money during the summer. "Every one of our employees knows this to be a fact yet each one without an exception claimed and took his full ten-day vacation at full pay." It is not said that these staff absences involved the employment of temporary help and so increased the cost of doing business. If that was really the case point would be given to the writer's complaint. We take it, however, that his words refer to the spirit shown by his employees and no more, that knowing the business to be anything but profitable, they grab their privileges as if it were otherwise. Not one of them comes to his employer to ask whether by fore-going his customary leave he could in any way or to any extent help the firm to tide over a slack period. Whatever it may be with himself, his paid helpers take their holidays in full, and take them as a matter of course.

From this particular cause of dissatisfaction Mr. Williams goes on to compare the position of employees to-day with what it was when he himself was an employee. He began at 12.50 dollars or say 50/- a month and it took him six years to reach 75 dollars or £15 a month. The seventh year he received 83 dollars and the eighth year 100 dollars a month or about £240 a year when he was twenty-eight years of age, for he was twenty, he says, when he began with this particular firm. Never once in these eight years did he have a vacation nor had the members of the firm for whom he worked. He had to open the store at sun up and close at sundown, and in the evenings after getting his supper he worked till ten or later posting the books. He has no desire to see the trade go back to that sort of thing, but the privileges of to-day, he points out, have to be paid for by somebody. To-day assistants must have modern homes, electric light, water on tap, picture shows and automobiles. All very desirable, perhaps, but at whose expense? He has carried the burden long enough, he feels, and is now going to insist on a profit for himself, a

profit sufficient at least to represent a small return on his investment. Many employees and independent hardware dealers throughout the country will be finding themselves on a long vacation from which they will return to seek employment in chain stores. There the conditions are different, everything being reckoned on a "cold-blooded dollar and cents" basis. "If a man is only worth 15 dollars per week that is all he will get, and he will have to live according to his income rather than according to his demands."

All this has its application to or its lessons for the trade and traders of Australia and New Zealand. Were our hardware dealers to speak as freely and frankly as Mr. Williams they would have much the same story to tell. The greater privileges of to-day are not valued as they ought to be. Employees are better paid and better treated than ever before, but comparatively few of them register their appreciation in better service. Concessions from the employer are grasped eagerly enough, but suggest anything of a reciprocal nature and the average assistant will feel aggrieved. What is conceded becomes a right to be held firmly. Here as in America the position is not what it was in the years immediately following the Great War. With costs of selling quite as high, competition is keener, and prices in many cases are cut to the bone. The facts have to be faced, and with a reduced turnover some dealers will have to look to their pay-roll, even though like Mr. Williams they do so with great reluctance. When that time comes, they will let go first the slack and inefficient, those who think more of their rights than of their duties.

Peace in Industry

At the annual conference of the Associated Chambers of Manufactures of Australia, held in Adelaide during the month, the following motion was passed:—"That this annual meeting records its conviction that existing systems of compulsory arbitration operating in Australia are preventing the expansion of industry and hampering the solving of the serious unemployment problem which is at present existent in all States; and that the forthcoming industrial conference be requested to give consideration to its abolition and substitution of a better system." This represents the views of Australian manufacturers, a great many of them at least. Compulsory arbitration, from which so much was expected, has yielded little but disappointment. So far from bringing industrial peace, it has, in too many cases, fomented trouble. If the masters are dissatisfied with the results, so also are the men. Arbitrative tribunals cannot always give the latter what they ask or what their representatives ask on their behalf, and, when this is refused, they resort to "direct action." Recently we have seen the decision of a judge with "labour" sympathies openly flouted by the waterside workers of Australia, and a mad attempt made to paralyse the whole shipping trade of the country. It failed, as it had to fail, unless constitutional government is

to go by the board, but the temper is there, fostered and fed by intransigent leaders, who would cheerfully overturn the present economic system without knowing clearly what to put in its place.

With the multiplicity of awards which employers must respect, even if their employees do not, and the status given to unionism and its leaders in the working out of compulsory arbitration, we are not surprised that manufacturers should long for some other way. What other way can be suggested? The conference of employees and employers with no advocates and no outside arbitrators. In Great Britain that free system is helping the "workers" to appreciate the situation in a way unknown to us here. Australian visitors to the industrial centres of England and Scotland speak with gratification of the better feeling which now obtains between employers and employed. After a frank discussion of the position as it affects both parties, adjustments have been made and lower wages accepted where reductions were shown to be imperative. Friendly approach and mutual concession are helping to revive certain enterprises and industries, and the future is full of hope. The Industrial Conference presided over by Lord Melchett (formerly Sir Alfred Mond) is doing much to promote better relations between employers and employed. Owing to his appointment as First Commissioner of Works in the British Government, Lord Londonderry has been obliged to give up his membership of this conference. He has expressed his regret that it should be so, for he expects much from the evidence it is collating, and the report it will make in due time. According to cabled reports, he believes the Trade Union Congress will require to be reorganised, because it is the only body—on that side at least—possessing authority to discuss and negotiate questions covering the entire field of industry. "Modern trade unionism is highly developed organisation. It is encouraging to find that trade union leaders are anxious to do all in their power to create a new spirit throughout the country without giving away any of the rights or privileges of those they represent, so that they might in future be saved from those disastrous deadlocks which had hampered their activities, not only in this country, but in competition with the rest of the world."

Here, in Australia, also, something is expected from the proposed industrial congress. It is promoted by the Federal Government, and delegates will be chosen from both employers and employed, although these will not be the only interests represented. The matter was before the manufacturers in Adelaide, and it was decided to nominate Sir Wallace Bruce, of that city, as chairman of the conference. It was also intimated that Sir Arthur Duckham, leader of the British Economic Mission, now visiting Australia, would be present to explain what had been accomplished in the Mother Country.

Not Till Then

"How long have you been working for Swivel & Co.?"
 "Ever since old Swivel threatened to discharge me."

Inquiry Column

During the month we have supplied answers to the inquiries indicated below. Firms with whom we have not already communicated who hold any agency connection with the firms, or handle any of the lines mentioned in this section, are invited to furnish us with particulars so that our lists may be complete.

TRADE INQUIRIES

Information Wanted

B. Walter & Co., Wabash, Ind., U.S.A.—Name and address of agent wanted.

"Lorraine" Kerosene Burner for Stoves.—Name and address of agent wanted.

"Ewbank" Carpet Sweeper.—Name and address of agent in Melbourne wanted.

Blakey's Boot Protectors Ltd., Leeds, England.—Name and address of agent wanted.

I.T.P., Carbide Lamp for use in coal mines—Name and address of maker or agent wanted.

"Marvel" Chain Sets for horse teams—Name and address of firm holding stocks wanted.

Clerc, Walker & Co., London ("Firehand" Hurricane Lanterns).—Name and address of agent wanted.

Thomas Winston, Birmingham ("Pearl" aluminium hollowware).—Name and address of agents wanted.

G. & H. Barnett Company, Philadelphia, Pa., U.S.A. ("Black Diamond" Files).—Name and address of agent wanted.

Information Supplied

"Monel" Metal.—Name and address of agents supplied.

P. & B. Building Paper.—Name and address of agent supplied.

"Eifel" Flash Wrenches.—Name and address of agents supplied.

"Trafalgar" Food Safes.—Name and address of maker supplied.

Skinner Sprinkler System.—Name and address of agent supplied.

Sullivan Machinery Co.—Name and address of agents supplied.

Perforated Zinc Sheets.—Name and address of agent supplied.

"Hoover" Vacuum Cleaners.—Name and address of agents supplied.

"Little Wonder" Bath Heater.—Name and address of makers supplied.

"Husqvarna" Ice Cream Churns.—Name and address of agent supplied.

Water-Cooled Safes.—Names and addresses of makers in Sydney supplied.

Isaac Hollis & Sons, Birmingham (guns)—Name and address of agent wanted.

Sperryn & Co., Birmingham (gas fittings).—Name and address of agent supplied.

Lacquered Tinplates.—Name and address of firm holding stocks in Sydney supplied.

W. W. Greener Ltd. Birmingham (shot guns)—Name and address of agents supplied.

John Oakey & Sons, Wellington Mills, London—Name and address of agent supplied.

Frank Cobb & Co., Sheffield, England. (Cutlery)—Name and address of agents supplied.

Lehmann, Archer & Co. Ltd. (taps and dies).—Name and address of agent supplied.

Kershaw Ltd., Birmingham (brassfounders).—Name and address of agents supplied.

Carborundum Co., Niagara Falls, N.Y. (U.S.A.).—Name and address of agents supplied.

Wood Wool for packing purposes.—Names and addresses of suppliers in Melbourne furnished.

West of Scotland Wringer Co., Glasgow ("Atlantia" Wringers).—Name and address of agents supplied.

Harrington & Richardson Arms Co., Worcester, Mass., U.S.A. (guns and rifles).—Name and address of agent supplied.

E. W. Bliss & Co., London, Paris and New York (power presses and canning machinery).—Name and address of agents supplied.

John Brown & Sons (Halesowen) Ltd., Halesowen, England (spades and shovels).—Name and address of representative supplied.

N. Hingley & Sons Ltd., Dudley, England ("Nether-ton" iron).—Names and addresses of agents and firm in Melbourne holding stocks supplied.

New Freight Term

F.I.O. is a new commercial or freight term now making its appearance in the British trade press. It means free in and out and the effect of it is to exempt the shipowner from cost of handling goods "in and out" of a vessel. In other words it covers only the transit of the goods by water.

LEGAL INQUIRY

Husband's Responsibility For Wife's Debts

Storekeeper wishes to know if a husband is responsible for debts contracted by his wife before her marriage and if not what procedure should be adopted for the recovery of such debts.

A.—The husband is not responsible. Proceed as if the woman were unmarried.

Hack Saw Making in America

Fully two years ago was formed the Hack Saw Association of America Inc. This association came into being because of certain evils or abuses from which the trade in these tools was suffering such as (1) unjust returning of goods (2) failures to deliver (3) misrepresentations (4) disregard of shipping instructions (5) accepting orders which could not be delivered (6) taking long-expired cash discounts (7) salesmen overloading buyers (8) wrongful deliveries and (9) unreasonable demands.

Although no attempt has been made to reach agreement or concerted action regarding production or price, the association has secured certain ameliorations or improvements which fully justify its existence. It has proved a distinct benefit to both manufacturers and distributors. For one thing it has secured a measure of standardisation. Before its formation some makers showed as many as 154 different specifications of hack saws, and the tendency was for every manufacturer to offer sizes which no other maker produced. Now, after much conference, the manufacturers have adopted a common list of only sixteen sizes of blades which with the various teeth make a total of fifty-five in all. In other ways the association is working for the benefit of maker, seller and user.

The foregoing information is condensed from a newspaper article placed in our hands by Mr. Ross Duggan, of 11C Castlereagh-street, Sydney, who represents in this country Clemson Bros. Inc., of Middletown, N.Y., U.S.A. That firm are not only makers of such saws but are the treasurers of the association.

Sundry Credits

(By J. Knibb)

The latest nomination for the "meanest man" competition comes from a well-known club housed within five miles of the General Post Office. Until this man appeared the distinction belonged to another, the one who gravely rose at the annual meeting to say that he did not buy his tobacco from the club because at the tobacconist's shop round the corner a box of matches was thrown in with his packet of "smoke." It was a protest rather than an explanation. The club, he felt, ought to do the same.

* * * *

Matches are sold at the club in question at a penny a box or two boxes for three half-pence, like the five sparrows for two farthings of Holy Writ. Another member who buys his tobacco there buys his matches also, but being a thrifty soul he hangs round the bar until another member calls for a box of Bryant & May, and then putting down a ha'penny, he says, "Make it two." The improvident member grins as he senses the nicety of the other fellow's finance and picking up his matches goes off to tell the story. And all this, be it remembered, not in Aberdeen, but in Marvellous Melbourne!

* * * *

What I would call a glaring instance of moral obliquity is now before the Victorian Parliament. Brought there, too, by the highest members of that body, the Premier and the Chief Secretary. If these gentlemen have their way the totalisator will be legalised in connection with horse-racing and the proceeds devoted to the "charities" of the State, the maintenance of the great public hospitals and other institutions. Even if it stood alone I would oppose the "tote" as demoralising to any community, but to link it on to the sacred cause of the suffering poor is an insult to right-thinking people. The two things ought to be considered apart.

* * * *

A doctor at Guy's Hospital, in London, has declared it "dangerous to force a naturally left-handed child to become right-handed." Dangerous because it may develop stammering, so he says, and the Victorian Chief Inspector of Primary Schools says experience has taught his department the truth of this. He has known cases where stammering ceased as soon as the child was allowed to follow its bent and use its left hand. Where children are ambidextral they are encouraged to use the right hand, but where the left-handed proclivity is definite and decided no force is now used in the State Schools of Victoria. The child is allowed to write with the left hand. It was not so when some of us went to school!

* * * *

I shall leave the medical faculty to decide whether the check or correction of left-handism has anything to do with a stammering tongue. This has impressed me—the difference between the hands and the use of the hands in different individuals. I know a man

who, although decidedly right-handed, can lift more in his left than in his right hand. Watch other right-handed men shaving their own faces and you will find that while one uses the right hand only for brush and razor, another takes the razor at least in his left hand when he attacks the left side of his face. That is the "natural" or at any rate the less awkward method of approach, and some of us have disciplined our less responsive left hands to do this bit of work and to do it well. Practice has made perfect.

* * * *

The fall of a meteorite in India calls attention to these foreign bodies which this old world of ours is called upon to receive every now and again. They come our way in myriads, we are told, but most of them are so small that we suffer no inconvenience from them. Friction-fired in our atmosphere, they fall in dust. This one, however, weighed some two tons and killed several people in its descent. In the American Museum of Natural History at New York is another big fellow brought there from Greenland in 1897 by the late Robert E. Peary, the discoverer of the north pole. I forget how much it weighs, but I know it cost Peary a great deal of trouble to move it from its bed and place it on board his little vessel. The biggest thing of the kind every found in Australia is now in Adelaide and weighs 22½ cwt.

* * * *

Various classes of meteors are recognised by science—aerolites, fireballs, and so-called falling or shooting stars. The first class covers all the stony or metallic masses, of whatever size, which fall upon the earth in solid form. All meteors are extra-terrestrial. That is to say they do not belong to the earth, nor even to the moon, but come to us from great distances. Yet they contain no element foreign to our earth, although—and this also is noteworthy—the composition sometimes differs from what we have it here. Meteoric iron is alloyed with nickel, cobalt, manganese, magnesium, copper, carbon, and tin in a manner not found at Iron Knob or Yampi Sound or anywhere else on the earth's surface. Altogether twenty-four of the chemical elements known to the mineralogist from his study of our own planet have been found in aerolites.

* * * *

A pamphlet on Henry Georgism which recently came into my hands quotes these words of the Founder of Christianity:—"Render unto Caesar the things which are Caesar's." This, it goes on to say, "conveys that there is that which is the distinct property of Caesar, which Caesar—the State—has produced and therefore has right to claim." The reasoning is as sloppy as the English. Caesar did not "produce" the denarius which the Master was shown on that occasion—not in any sense. Another than Caesar mined the copper, another than Caesar minted the coin and another than Caesar held it up for inspection "down in Judee." A foolish argument I call this, a wresting of scripture for particular ends. Am I to be told that the coins in my pocket belong to King George because they bear his image and superscription, that they are not mine at all? No, no! Mr. Pamphleteer. You must go elsewhere for your ammunition. The Master dealt in principles, not in patent medicines.

Novelties and New Samples

Ship Chandlery and Tools

Mr. Stanley B. Gamble, of Daking House, Rawson-place, Sydney, has received a full range of ship chandlery from Henry Kaufmann & Sons, Solingen, Germany, the line being new as far as Australia is concerned, although made for years by the firm. Fresh samples of tools of all kinds have also come to hand, including those for tradesmen, gardeners and motor garage proprietors. Prices are remarkably low.

Tools and Cutlery

Mr. I. Myers, of 143 Castlereagh-street, Sydney, is showing on behalf of C. Kammerling & Co., Elberfeld, Germany, a comprehensive range of tradesmen's tools such as auger bits manufactured from Swedish steel, wrenches of Clyburn, Footprint and Stillson patterns, saws, vices, pliers for all purposes and planes. A centre bit which can be sharpened without altering its size is among the featured lines.

Also shown are all types of stainless cutlery and E.P. ware, the latter bearing guarantees of from ten to twenty years.

"Buffalo" Forges

Buffalo Forge Co., of Buffalo, N.Y., U.S.A., have advised their representatives, Richardson Orr & Co. Ltd., 250 Pitt-street, Sydney, that they have eliminated a number of their forges, drills, blowers, etc., and are concentrating on a smaller number of the more popular machines. These are now being manufactured on a standardised principle lessening the cost of production which benefit will be passed on to the merchant or importer.

A new catalogue, showing these changes, is expected to reach the representatives about the middle of November and a copy will be mailed to buyers on application.

Bean Stringer and Slicer

The Tatham Cutlery Manufacturing Co., Bowen's Building, Railway Square, Sydney, have altered their "Krisk" bean stringer and slicer so that the device can now be taken to pieces by the householders and worn parts replaced. This was not possible with the old make. An important point stressed by the makers is that their device actually strings the beans in addition to slicing them. In these days when labour and time saving devices make a strong appeal to the housewife the "Krisk" should prove a popular seller, particularly as the retail price is only a few shillings.

Supplies are sent out in dozen lots attractively boxed, each slicer being contained in its own carton, and a recipe book is given to promote sales.

British Tools

Moore & Wright, Sheffield, England, manufacturers of precision tools, have furnished their Australian representatives, Thomas C. Brown & Co., Broughton House, 181 Clarence-street, Sydney, with a complete new range of their numerous products and advise that, with the rebuilding of their works now proceeding, important additions to the lines will shortly be made. Among the "Moorite" tools shown are several notable innovations. Calipers and dividers in all sizes and for all purposes are now made of stainless steel which discriminating tradesmen will doubtless appreciate. Then again all boxed spanners for cyclists, motorists and en-

gineers are now produced in the hexagon type and are offered in a liberal range of sizes. Several new lines in pocket or wallet cases are introduced notably list No. 375 containing feeler gauge with nine blades from $1\frac{1}{2}$ to 15/1000, a 6 in. inside firm joint caliper, a 6 in. outside caliper and a two-fold 12 in. steel rule. The wallets are made from high grade leather with press button and, where desired, variations of these sets can be supplied. For wider application is No. 374 containing a set of ten tools in folding leather case. Some special lines of feeler gauges are shown which are quoted to meet the competition of similar American lines.

A new line of oil cans registered "Never Drip" embodies the leak-proof principle formerly confined to the firm's No. 250 can. The valve at the top prevents leakage when the can is held or placed in any position. These cans are expressly made for the use of engineers, motorists and others requiring small, handy oilers.

Two new precision tools come in the form of tip distance and whole depth gauge designed for modern shop practice as regards gear cutting and such like. By means of the sliding bar, accurately graduated to whole depth of gear tooth, the same is transferred to gear blank affording the operator definite sight measurement for machining. Another feature is the tip distance of the bevel gear wheels which can be readily measured to their accurate dimension obviating the use of a number of plate gauges as formerly required. The gauge, too, will be found useful for scribing or measuring gauges similar to those used for making form tools, etc., and the flat variety of the latter can be measured direct. The tool is applicable to a variety of other uses which will be obvious to a machine shop operator.

The second line is a vernier depth gauge with graduations in both English and metric. This tool is expressly adapted for accurately measuring lengths and depths through bore of holes, depth of recess in dies and any position where the base can be seated and the length transferred to the point of the sliding bar. The latter is graduated to read in 1/1000 in. or 1/50 mm by means of a vernier, while the length of bar graduated is 4 in. With both these tools adjustment is made by the sliding piece and fine pitch adjusting nut. Improved screw cutting gauges introduce important features which will be at once apparent to the engineer.

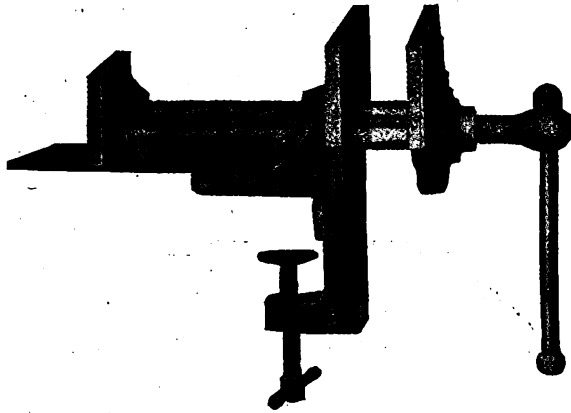
Improved tool and tap holders designed to hold reamers, taps, drills, etc., either round, square or oval are also shown. No. 102 is recessed or curved near the ends of the handles to prevent the fingers slipping off during use. Four inches long and 7/16



in. diameter it has a capacity of 0 to 1/4 in. No. 103 is a modification of the above having the same capacity, but is superior in design, and although lighter in weight is claimed to be equally strong and rather more handy to use. No. 104 is made for use where a still more rigid tool is required. It will hold absolutely firm taps, reamers, drills and such like with either square or round shanks, the tool being held in a V shaped grip, thus giving very great holding power. The length of this number is 5 1/2 in. and the capacity from 1/4 to 3/4 in. taps.

With each shipment of goods new and attractive systems of carding for window and counter displays are provided.

From C. & J. Hampton Ltd., the representatives are showing some improved lines of "Record" tools foremost among which is a "Record" cramp made from high tensile steel with non-bending bar. The special merits of this tool are: An extra long head giving additional strength and durability, a special locking pin that cannot work loose, a steel taper



turned peg, and bar stop to prevent the shoe from being lost. The latter is particularly important as merchants are commonly aware that shoes sometimes become detached from the cramp and are misplaced. Tradesmen, too, will realise this advantage. Another new line is the "Record Junior" patent woodworker's vyce and cramp combined, which can be fixed to any bench table, trestle or post, in fact it can be fastened to anything from $\frac{1}{4}$ to 2 $\frac{1}{2}$ in. thick. It will cramp work up to 32 in. in length and is effective in gripping both taper and straight work, while the vyce has a perfectly parallel grip free from any side movement. The cramping bar is so constructed that it can be readily fixed or detached without removing the vyce from the bench. The weight being under 10 lb., the tool can be conveniently carried to the job in a tool kit.

Malleable Pipe Fittings

Malleable pipe fittings of good quality are now being made in Australia. Johnson & Gaston, of Hardware House, 386 Post Office Place, Melbourne, are Victorian agents for Thomson & Scougall Ltd., of Alexandria, N.S.W., who have made considerable progress in the production of high grade malleable fittings.

After showing that their products could stand up to all the necessary tests the makers have succeeded in securing important contracts from railways in several States, as well as from leading gas companies. A complete modern plant has enabled them to meet overseas competition in the matter of price and quality.

These lines conform throughout to British standards, except with regard to threads. The British conical thread had to be abandoned as it was found that plumbers are unable to obtain British conical dies with which to screw their pipes. The practice is to test all pipes to 300 lb. hydraulic pressure twice during the process of manufacture. Correct alignment is assured through being screwed in three-way positive machines.

Hardware merchants who have handled these fittings say that plumbers speak highly of their quality, and the wholesale trade should find it profitable to stock these Australian-made fittings.

Heavy Tools

Nelson & Co., Ltd., 47 King Street, Sydney, are showing on behalf of Burgon & Ball Ltd., Sheffield, England, a comprehensive range of tools such as pick blades for miners and navvies, hammers used by boiler makers, blacksmiths and masons, and square and round nosed shovels and forks.

A New Secateur.

A new type of secateur, constructed on lines entirely different in principle from the conventional pattern, is now displayed by George Russell & Co. Ltd., who are sole distributors.

The "Rolcut" 20th century secateur, as it is named, is made to give a maximum of control, and to exert a great leverage without much effort by the user. Its shape permits it to be handled to advantage amongst the foliage, nipping out unwanted fruit quickly and easily without tearing fruit spurs. In "trying out" this tool on actual work, which is, after all, the real test, the outstanding feature of its action appears to be a peculiar slicing motion of the blade, securing a perfectly clean cut with no tendency to bruise tender shoots. It made no difference whether it was used upon mere threads or a dead stump the size of one's finger; in both cases it was equally effective.

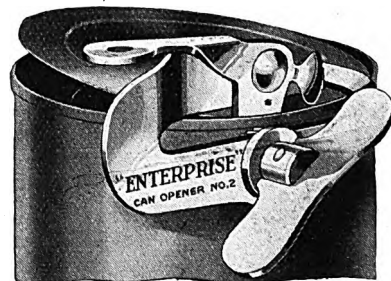
Instead of the customary curved type of blade, the jaws meet in a straight line. The design of the handle probably assists in the comparatively effortless cutting operation, as it fits comfortably into the hand. All spare parts are obtainable from the distributors, and these are easily fitted, the entire construction being extremely simple.

Aluminium Ware and Bath Fittings

At their showrooms in Arco House, Cole's lane Melbourne, Henry F. McCrear Pty. Ltd., have a range of samples of aluminium ware from Thompson Bros. of Birmingham, comprising all kitchen and household utensils, all under the makers' "Chieftain" brand. From the same works comes a good list of bathroom fittings, together with "Rotary" knife sharpeners.

New Can Opener

A new can opener from the Enterprise Mfg. Co., of Pa., Philadelphia, U.S.A., promises to be a good seller. As shown in our illustration the "Enterprise No. 2" bears no resemblance to the conventional pattern, which with minor variations has come down to us through the ages. There is no knife or cutting edge, and the danger of a painful gash from jagged tin is practically eliminated. The appliance is placed on the can edge, a lever is depressed, and a thumb screw is turned very much in the manner



of winding the bedroom alarm clock. The result is the removal of the top close to the edge, the rim being neatly turned down and smoothed off. Not a drop of liquid is spilt in the process. The can which remains may be used as a vessel for kitchen purposes if required; quite a boon for camps and outback folks. It appears to sell rapidly when demonstrated.

Mr. Harold J. Beer, of Hardware House, 386 Post Office Place, Melbourne, is the representative there of these well-known manufacturers, while Mr. G. Matthias holds a similar connection in Sydney, and Mr. J. G. Henry in Wellington, New Zealand.

Waterless Cookers.

The "Universal" waterless cooker, illustrations of which will be found in our advertising pages, possesses many features both of efficiency and economy. It has never been doubted that if food be cooked in its own juices, without boiling in water or exposure to fumes, it is superior in flavour, and, in many cases, more nutritious than when prepared by other methods.

This appliance is a simple and effective means of ensuring these conditions in cooking. It is a compact aluminium container, fitted with the necessary vessels for various dishes, and permits the cooking of a complete dinner at a trifling cost of fuel.

In the ordinary way the housewife must maintain the oven at a high temperature for an hour or two, besides using both rings on top of the stove. The waterless cooker needs only one small jet, burning low, the whole dinner for a family of six costing at the most a few pence. No water whatever is added to the food, which is placed in the cooker dry. Once the dinner is "on," no further attention is required until it is cooked, and there is no possibility of overcooking. The meal may be left to itself, and, if delayed an hour or more, it makes no difference.

Every cooking operation can be satisfactorily performed, including jam making and preserving.

The "Universal" cooker is wholly made in Australia, and storekeepers throughout the Commonwealth are wanted to handle the line as agents. A liberal basis of remuneration will be arranged. Application should be made to A.I. Distributors Pty. Ltd., London Stores Building, Elizabeth-street, Melbourne, C.I.

All-Purpose Tool

A combination pleyer and wrench with great possibilities, is the "Eifel-Flash Plie Rench." It carries within a small compass the means to do hundreds of jobs, with no necessity for any but the most trifling adjustment. Instead of the usual scissors action, the jaws come together in a straight line. With the help of a gear a grip of a ton is obtained by a simple pressure of the hand; a grip which is locked as securely as a large vyce, operating without any damage to the work.

A 64-page illustrated pocket manual is supplied with the tool which is in itself a mechanical education. It shows how to make a spiral spring, to open or close any link of a chain, however large or small, or to saw through a welded joint with half a hack-saw blade in the jaws. Its strength is displayed by a "stock" demonstration which may be done quite easily. The end of a piece of 1 in. by $\frac{1}{2}$ in. steel is caught in the jaws and bent over to form a loop, with no assistance but a plank on which to rest the bar. These are only a few of its uses selected at random. The "Plie Rench" is 8 $\frac{1}{2}$ in. in length, and comes in a neat holster which may be slipped into the pocket. The agent is M. Johnson of 440 Little Collins Street, Melbourne.

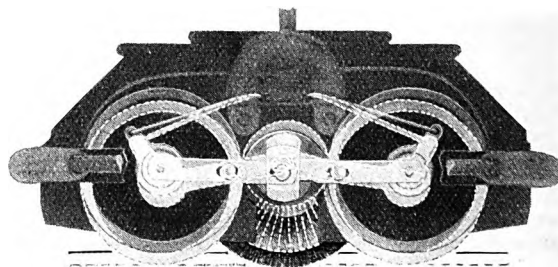
New Bissell Sweeper

The Bissell Carpet Sweeper Co., of Grand Rapids, Mich., U.S.A., announce an outstanding improvement in their old reliable sweeper which they refer to as "Hi-Lo" brush control and describe as the greatest advancement in carpet sweepers in twenty years, if not in fifty.

To better understand what the "Hi-Lo" brush control accomplishes, it must be remembered that in all previous construction the brush itself occupied a fixed position in the sweeper and it was brought into contact with the shorter nap carpets, etc., only as far and as fast as the whole spring-mounted sweeper body could be lowered by pressure on the handle, and there was a limit to the extent of such self adjustment.

But now, with the "Hi-Lo" construction, the brush is carried on movable plates which are actuated by levers or rocker arms connected through fulcrum pins to the wheels, so that as pressure is applied through the handle, not only does the sweeper body go down as before, but in addition the brush itself is lowered still more, making the total adjustment nearly one-half inch more than is required for the whole range of floor coverings.

This lever action therefore causes the brush to go down faster than before, making the sweeper more responsive; farther than before, making it practically unlimited in its adaptability to anything from the heaviest carpet to hard floors; and easier than before, by decreasing the amount of handle pressure required. All in all, it multiplies the effect of handle



pressure—turning the slightest effort into the greatest sweeping power. Not only that, the improved sweeper acts beautifully on exceptionally heavy padded carpets because with this rocker arm lever construction, the brush tends to find its own correct level, preventing the sweeper from "nosing in" when the user attempts to apply too much handle pressure.

The new sweeper fully meets the challenge presented by the great variety of modern floor coverings, some of them of extreme thickness.

In the illustration above are shown the rocker-arm levers which create the up and down movement of the brush.

For Hospital and Home

R. V. Bristol & Co. Pty. Ltd., of Dank's Buildings, Bourke-street, Melbourne, advise the receipt of a range of samples of hospital requirements from the makers of K.E.R. Swedish enamelled ware.

The "Howe" rim cutting can opener, lately introduced by the firm, has met with a good reception in the trade. The principle is new, making it simple to use and avoiding any risk of cutting the hands. Although it sells at a low price a good margin is allowed for the retailer.

An attractive line is the "Hanson" range of kitchen scales and vendors' balances. Apart from the appearance of these scales, which is exceptionally goods, the dial readings are practically arranged and plainly seen. In keeping with the modern idea the scales are finished in various colours: jade, yellow, red, blue, white and gray. The points emphasised in the Hanson patterns are accuracy all round the dial, sensitivity, precision of springs, and the porcelain enamelled platforms. Special attachments may be had for quickly converting an ordinary kitchen scale into a nursery scale. Buyers are advised to inspect this range, which is excellent in every way.

From Lester Parton's works comes a new model rim lock, No. 437, which has already been well received in the trade. It is strongly made, keenly priced, and represents exceptional value.

Before long a new range of British samples will be displayed from the Bank Hardware Manufacturing Co., including grindery tools, small garden tools, domestic implements and companion stands. These have been selected as specially suitable for the Australian market.

As agents for the Mandaw Co. Ltd., of London, the firm have a large range of torches and batteries,

as well as several other lines. Every possible type is represented, from the smallest pocket lamp case to the largest torch, the standard of quality being well maintained throughout. A feature of the entire range is the cost, which will be found to compare favourably with other makes. Batteries of kinds include dry cells, H. T. wireless batteries up to 100 volts, and accumulators. Many useful Christmas novelties have been introduced. There are electric table novelties and decorations, table lamps, volt meters, top motors, and sun glasses. Mention should be made also of portable gramophones, several designs of which will be found in the list. While these are very moderately priced machines modern refinements are embodied in their construction, and the finish is good. A finely illustrated catalogue is available, and those interested will receive a copy on request.

The firm also represent the "Autovac" ice cream freezer, which sold so well last season. This handy article, so useful for picnics, or for the household, is on view at the rooms.

British and Continental

A number of British agencies are held by Johnson & Gaston, of Hardware House, 386 Post Office Place, Melbourne, and 154 Castlereagh-street, Sydney.

Samples of cutlery of all kinds will shortly be displayed from Wingfield, Rowbotham & Co. of Sheffield. Their name has been familiar to the Australian trade for many years, their recent introduction of safety razor blades on this market having been exceptionally successful. It is intended to offer cutlery lines which have been specially designed for Australian requirements. The values and prices of the new range will, it is promised, prove most attractive to buyers.

Charles Taylor's (Sheffield Tools) Ltd., also of Sheffield, are manufacturers of edge tools of all kinds. The lines shown include turnscrews, gimlets and chisels, as well as a large list of similar tools. Taylor's chisels are stocked by most hardware houses in Australia. Good patterns which may be mentioned are the "hollow mortise" and cast steel "machine mortise" chisels.

From The Vanadium Steel Co. Ltd., another Sheffield concern, come twist drills of all kinds. These are British-made throughout and with a duplication of plant prompt delivery is now guaranteed.

Isaac Nash & Sons Ltd., of Stourbridge, are represented by high grade forks and spades, as well as the medium and cheaper types. They are also turning out Australian pattern spading forks and Tasmanian pattern potato forks. A new weldless digging fork comes highly recommended, and a strong demand is anticipated for this number.

Peter Wright & Sons, of Stourbridge, in addition to standard lines in anvils and vices, are making cheaper patterns at competitive prices.

William Allday & Co. Ltd., Birmingham, makers of a range of forges, are now working on a new line which presents special features in construction and design. This will be offered at a price competitive with other makes on the market, and is stated to be unusually good value. Samples are expected early in the new year.

For the Standard Hacksaw Co., of Sheffield, the agents display a full range of hacksaw blades, known under their brand of "Goliath." Here again the prices are on a basis to command the attention of users.

The Granville Shear Co. present a large selection of hedge shears in all patterns, and British-made from start to finish.

A. Kemp & Sons Ltd., of Birmingham, are makers of nickel silver sheets and wires. Being exclusively engaged in the production of these lines they have

gained a fine reputation for the quality and finish of their work.

Chains Ltd., of Darlaston, are, as their title indicates, manufacturers of chains of all kinds. They are large producers of electrically welded chains, and are now working on patterns suited to the Australian market. These will shortly be available in a full range.

John Hill & Sons, of Stourbridge, specialise in all classes of lifting tackle and pulley blocks; H. Jenkins & Son, of Birmingham, in cones, balls and similar wares for electro-plating work; and W. Wilson, also of Birmingham, in bakelite plinths of all kinds.

"Urgos" clocks, confined to the high grade bracket and "grandfather" types, are shown on behalf of I. Kirschbaum, London, the sole concessionaire.

Arndt & Cohn, of Hamburg, are represented by torches and batteries, as well as "Rotbart" safety razor blade stropers. This is considered an exceptionally useful stropper, and has found favour with users wherever it has been offered. It is of simple design, and is said to be most efficient in use.

The Metals of the Bible.

In Adelaide recently a lecture on this subject was delivered by Prof. T. Turner, emeritus professor of metallurgy in the University of Birmingham. We are indebted to the "Register" newspaper for the following report:—

The lecturer said the study of metals was interesting not only on account of their practical importance, but because they indicated the stage of civilisation attained by a nation, and afforded a test of the authenticity of its records. Pottery and metals remained after many other human productions had passed away. There were very many references to metals in the Bible, particularly in the Old Testament. It had been written more than 2,000 years ago, and had remained unaltered during that long period. Modern exploration in Bible lands, on the other hand, was only about seventy years old, and the results of these explorations could be compared with what was written so many years ago.

Professor Turner explained that stone was the first tool used by man, followed by copper or bronze, and later iron and steel, and in recent times various other metals. Those stages were not so much eras in the earth's history as steps in the progress of a people. The Old Testament spoke of the use of gold, silver, iron, tin, lead, and brass. Such references covered a period of 2,000 years; they contained no anachronisms and were confirmed in all particulars by modern discovery. The gold wire and hammered sheet gold described by Moses was common among the Egyptians: iron was found in the Great Pyramid and in the remains of Nineveh. The tin in the market of Tyre was obtained from Spain and England by the ships of Tarshish. Parts of the brazen gates of Babylon, mentioned by Isaiah, were in the British Museum. Copper was discovered in the remains of one of the earlier cities on the site of Lacish. The lecturer gave many similar facts testifying to the historical accuracy of the Prophets and Scribes of Israel. Incidental evidence was said to be the strongest evidence. Judged by this standard, a story of the metals of the Bible threw much light upon the old records, and confirmed their historical truth. The use of metals in the symbolic sense, so common in the prophetic books, indicated a general familiarity with metal work, which could only be found in a people well advanced in the arts and conveniences of civilisation.

Personal and Social

A Friend to Animals

The late Mr. George Bills, of Buesst & Bills Bros. Pty. Ltd., wire mattress manufacturers, of South Melbourne, left an estate valued for probate purposes at over £88,000. After making provision for certain legacies he directed that the income from the residue of his estate should be used in the erection of troughs for horses and other animals in Australia, the British Isles, or any other part of the world subject to the consent of the proper authorities being obtained. He further directed his trustees to pay such sums as in their discretion they thought fit for the protection of dumb animals over an area equally wide.

American Trade With Australia

In succession to Mr. C. F. Baldwin, who has been acting temporarily, Mr. S. R. Peabody has been appointed American Trade Commissioner in Australia and is now located at 440 Little Collins - street, Melbourne.



Mr. S. R. Peabody

As will be seen from the portrait which accompanies this note, Mr. Peabody is still a young man. A native of New York City he graduated from the Syracuse University in New York State, and has since had a varied experience of trade matters and trade organisation in different countries. Before the close of the Great War he served in France with the U.S. Tank Corps. Subsequently he travelled on private business in Europe and the West Indies on behalf of the Rochester Chamber of Commerce. Immediately before leaving for Australia he was at Norfolk, Virginia, as district manager of the United States Department of Commerce. It is from that body, needless to say, that he holds his present appointment an appointment covering three years.

Since 1915 the department has had a commissioner in Melbourne. Until recently he was expected to look after the Dominion of New Zealand as well as the Commonwealth of Australia, but now the territory has been divided, and Mr. Julian B. Foster, formerly of the Melbourne office, becomes the first American Trade Commissioner in New Zealand.

From his headquarters in Melbourne, Mr. Peabody will visit periodically the various States of the Commonwealth. His endeavour, like that of his predecessors, will be to promote the flow of trade between the two countries. He will keep his department acquainted with business developments here, especially as these affect lines which America now places or might place on the Australian market.

British-Australian Trade

Mr. S. F. Ferguson, who succeeded Mr. T. E. Moorhouse as general secretary of the Australian Association of British Manufacturers, has already seen marked developments in the activities of the association, and a widening of its sphere of influence consequent upon its linking up with important trade organisations in Great Britain.



Mr. S. F. Ferguson

A native of Australia, Mr. Ferguson has had banking, commercial and industrial experience in this country. He was abroad with the A.I.F. and remained in London, after the Armistice, until September, 1919, when he gained some journalistic experience with the "Pall Mall Gazette." Since returning to Australia his experiences have included two years with the British Phosphate Commission on the island of Nauru (Central Pacific). In addition to his position with the Australian Association of British Manufacturers, he is a member of Ferguson & Layh, public accountants, of Melbourne.

Death of Mr. J. H. Dodds

Mr. James Henry Dodds, managing director of Robison Bros. & Co. Pty. Ltd., South Melbourne, died at his residence in Toorak on October 17, aged seventy years. The deceased was a native of Ballarat and had lived all his life in Victoria. He became associated with Robison Bros. fifty-three years ago, and was manager from 1894, until 1908, when the firm was converted into a company and he was appointed managing director. Under his guidance the company carried out several ship-building contracts and other large works, including the construction of ammunition wagons for the Defence Department. Death came to him very suddenly. He was at the office the day before and was taken ill there. A widow and one son are left behind.

Death of Lysaght's Melbourne Manager

Mr. Henry Benn Burslem, who died at his home in South Yarra on October 12, aged 64 years, had been connected with Lysaght's galvanised iron for nearly half a century. A native of Staffordshire, he began at the headquarters of John Lysaght Ltd. in Bristol, and subsequently went in their interests to South Africa. After some time there he came to Australia and for several years was manager of the Brisbane branch. Meantime the Australian company, Lysaght's Galvanised Iron Pty. Ltd., afterwards changed to John Lysaght (Australia) Ltd., had been formed to control the business in this part of the world, and the late Mr. Burslem became a director. With the death in 1918 of Mr. Thomas Davey, who had handled so long the Lysaght business in Melbourne, Mr. Burslem was transferred to that city and had been in charge there ever since. He leaves a widow and grown up family of two sons and one daughter.

Death of Mr. Robert Fowler.

Mr. Robert Fowler, who died at his residence in Roseville, Sydney, on October 27, aged 55 years, had been connected with the business of R. Fowler Ltd., pottery manufacturers, of Marrickville and Bankstown, ever since he left college. Upon the death of his father, he became managing director of the company, and held that position until he was forced to retire on account of ill-health six months ago.

The name of Fowler has been associated with pottery manufacture in Australia for more than ninety years, the deceased gentleman's grandfather, Mr. Enoch Fowler, having established the works at Camperdown in 1837. Some ten years ago a removal was made to Marrickville, and a branch factory is now being built at Thomastown, in Victoria.

Of a quiet and retiring disposition, the late Mr. Fowler devoted himself to his home and his business. He showed every consideration for his employees, and the best of feeling obtained between master and men. On the pay roll, in many instances, several generations have succeeded each other.

The late Mr. Fowler leaves a widow and family of six—four sons and two daughters. Two of the sons, Robert and Edward, are actively connected with the family business, being the fourth generation of Fowlers to hold the reins.

Death of Mr. L. R. Lloyd.

Mr. Leonard R. Lloyd, who died on October 6, in his eightieth year, was well known in Melbourne as managing director of Eliza Tinsley Pty. Ltd., machinery merchants, and Lloyd Bros. & Maginnis Pty. Ltd., tanners and curriers.

A Welshman by birth, the late Mr. Lloyd began his business career as a lawyer's clerk, but, after two years of such work, joined the firm of Eliza



Late Mr. L. R. Lloyd

Tinsley, chain, nail and rivet manufacturers, of Sedgley, in Staffordshire. In 1870 they sent him out to Melbourne as sub-manager of a branch which they had established there. The man he was sent out to assist absconded, however, and, after obtaining the necessary powers from England, together with a fresh shipment of goods, he became the manager, and had been connected with the business ever since. Two of his brothers subsequently came to Australia, and, in 1872, Lloyd Bros. estab-

lished themselves in the business of tanners at Broadford. Subsequently a cousin, Mr. James Maginnis, joined them, and the firm was then styled Lloyd Bros. & Maginnis. A fire in 1914 having destroyed the works there, they reopened in the metropolis, and the tannery is now in Whitehall-street, Yarraville. Although a partner in the firm of Lloyd Bros. & Maginnis, Mr. Lloyd still retained his connection with Eliza Tinsley. In 1891 this firm became the proprietors of the Australian business of Eliza Tinsley, which they continued to carry on in the old firm-name, and, some years later, a move was made from the old address in King-street to the extensive premises erected by them at 640-52 Bourke-street, Melbourne, the premises still occupied. When, in 1920, Mr. Lloyd celebrated the fiftieth anniversary of his arrival in Australia, both firms were converted into limited liability companies, those associated with him on the directorate of Eliza Tinsley Pty. Ltd. at that time being his cousin, Mr. James Maginnis, his two nephews, Mr. L. B. and Mr. M. C. Lloyd, and Mr. Andrew Alcorn. These four gentlemen are still on the board. Some two years ago the company acquired and incorporated the coach department of Alexander Mair & Co. Pty. Ltd.

The late Mr. Lloyd was the last of the brothers, and his wife also had predeceased him. He leaves two daughters. For the portrait which we publish we are indebted to a friendly contemporary, "The Coach and Motor Builder."

Chromium Plated Spoons and Forks

Arthur Price & Co. Ltd., Birmingham, have forwarded some interesting particulars regarding the production of chromium plated spoons and forks, which they have recently undertaken. A large modern plant has been taken over by the company, and this will be devoted solely to such work.

Although chromium plating has been used for a time in the making of motor and bathroom fittings, with some degree of success, Messrs. Price claim to be the first spoon and fork manufacturers to seriously adopt this process. They undertake that their spoons and forks, which will be known as "Perfect Stainless" will not stain nor tarnish under any conditions. So convinced are they of this that they are providing buyers with a written guarantee that they will wear for a period of thirty years.

Another claim made for the "Perfect Stainless" lines is that they will not go dull in use as is the case with silver plated ware, but will retain their lustre during many years. They do not require any special cleaning, the usual washing being sufficient to keep them in condition.

Chromium plate is not to be confused with stainless steel, or "stainless nickel" so-called. The new articles have a coating of the metal chrome deposited on them by an electric process, the blanks being of high grade nickel silver.

As the factory has been organised on mass production lines the firm are able to supply at prices which should command an extensive sale in many markets. They are well known already as spoon and fork manufacturers in the British Dominions and elsewhere.

Mr. Oliver M. Tibbitts, of Beaucaire House, 103 York-street, Sydney, and Melbourne House, 360 Post Office Place, Melbourne, is the Australian representative, while Mr. Cuthbert S. Stewart, of Wellington, represents the firm throughout New Zealand. Having been in England recently Mr. Tibbitts has first-hand acquaintance with the operations of his principals.

Interstate General News

A Rare Shot Gun

Westley, Richards & Co. Ltd., gun and rifle manufacturers of Birmingham, recently supplied to the order of a Queensland squatter one of the best guns yet seen in Australia. Through the makers' representative, Mr. Albert Adams, 277 Clarence-street, Sydney, we learn that the gun is a "Model De Luxe" single trigger with removable locks, hinged cover plates and all the latest improvements. The gun is beautifully engraved and is provided with a crocodile leather, silk-lined case with gold corners and a very fine set of ivory and gold mounted implements. It need scarcely be said that the construction is fully in keeping with the finish and accessories. As seen at the agent's showrooms it appealed to us as a weapon of great excellence.

Commerce Chambers of New Zealand

This year the annual conference of the Associated Chambers of Commerce of New Zealand took place at Wellington. At the final sitting on October 15, Mr. H. P. Caughley, of Auckland, was unanimously elected president for the current term, with Mr. C. P. Agar, of Christchurch, as vice president, and an executive comprising Messrs. H. S. E. Turner (Christchurch), H. C. Campbell (Dunedin), C. M. Bowden and E. Salmond (Wellington), and W. J. Gilbert (Wanganui).

Various matters affecting the trade of the Dominion were discussed and among the remits carried was one regarding an evil from which trade suffers in Australia as well as in New Zealand: "That this conference is of opinion that the cash order system is inimical to the interests of the community, and that legislation should be brought down immediately to prohibit same."

Hardware in Drapery Stores

In Sydney within the past few years a number of what had been exclusively soft goods' houses have added hardware departments to their activities. The advent of what are popularly known as the "six-penny stores," and the success they have achieved is partly but not wholly responsible for what the old time draper would have regarded as quite a revolutionary departure from age-long custom. Even before the coming of the "stores," however, the new change was beginning to manifest itself firms recognising that well advertised household articles cut below ruling prices, acted as a lure to women shoppers who came to buy one or two "little things" because they were so cheap, and remained to spend money in other departments.

Since the policy became established its growth has been remarkable, its own success and the competition of the stores accounting for this development. In the beginning only kitchen utensils and similar articles were stocked, but to-day it is possible to buy tradesmen's tools, garden tools and even such cumbersome things as lawn mowers in drapery establishments that pride themselves upon being up to date. Nevertheless the exclusively and old established hardware houses are standing up to the very keen competition they now have to face. And this in spite of the fact that hardware seems to have been singled out by the price cutter. By way of compensation one large concern has lately dropped hardware and taken up softgoods.

New Steamers For New Zealand

The New Zealand Shipping Co. Ltd., recently placed an order with John Brown & Co. Ltd., of Clydebank, Glasgow, for the building of three large twin-screw motor driven steamers to trade between Great Britain and New Zealand by way of the Panama Canal. Early next year, the first of the trio the "Rangitiki" is expected to reach New Zealand on her maiden voyage. She is a vessel of 17,500 gross registered tonnage, having a length of 553 ft. overall by a width of 70 ft., and will be equipped with two sets of five cylinder Brown-Sulzer, two-stroke, single-acting Diesel oil engines capable of developing a speed of between fourteen and fifteen knots an hour. Provision will be made for the accommodation of 600 passengers on five decks—100 first, 80 second and 420 third class. There will also be ample hold space for refrigerated and general cargo. The other two new vessels will be of similar size and equipment.

Founded at Christchurch in 1873, the New Zealand Shipping Co. Ltd., have maintained regular services between the Dominion and the United Kingdom for over fifty years. Beginning with sail-driven clippers ships, they welcomed their first steamers in 1883 and with the opening of the Panama Canal they adopted that route for both passages—inwards and outwards. Their first "Rangitiki" was a sailing vessel of the clipper class, 210 ft. long by 35 ft. wide and having a gross register of only 1188 tons. Built at Hull in 1863 she was one of their first purchases. Their present liners include the "Remuera," the "Rimutaka," the "Rotorua," the "Ruahine" and the "Ruapehu," three of these being oil fuel vessels.

Cash on Delivery Opposed

At the annual conference of the New Zealand Associated Chambers of Commerce during October the following motion was passed:—

"That this conference again brings under notice of the New Zealand Government the urgency for the cancellation of the C.O.D. system between other countries and New Zealand, which is seriously affecting the traders of our Dominion who are subject to taxes, rates, rents, etc."

In support of the motion Mr. E. A. Rosevear (Dunedin) said that in spite of vigorous protests from the commercial community the Government refused to touch a system which they regarded as interference with legitimate trade. The thing was growing to large proportions. From July 1, 1927 to June 30, 1928, 34,674 of such parcels valued at £120,106 had come into the country. If the people of New Zealand wished to make their purchases abroad no one could reasonably object, but there were strong grounds for objection to the Dominion Government acting as agents for overseas traders to the detriment of their own traders and taxpayers.

Under this system a wholesale or retail merchant in Great Britain or elsewhere can supply goods to the order of a customer in New Zealand, the Post Office there acting as the seller's agent in collecting and transmitting the amount represented. The sender, it seems, pays a special rate of postage and a poundage rate on the value of the parcel and the receiver pays any Customs duty that may be involved and a special delivery fee of 4d. per parcel. The invoice price and any other charges must be paid before the parcel is delivered. The sender, that is to say, is guaranteed by the New Zealand

Government, but whether the latter gets anything more than the 4d. per parcel is not clear. For all that appears the commission payable by the sender which is said to be 2½d. in the pound may be shared in the case of British parcels between the British and New Zealand Governments. In dealing with the growth of the system during the past four years, a Wellington paper gives the following figures:—

Year	Number	Value
1924	3,500	£12,100
1925	9,129	31,952
1926	13,799	52,308
1927	27,379	97,323

Taking 1927 only it will be seen that the business involved a poundage or commission payment of over £1000 and that in delivery charges the New Zealand Government collected a further £456.

Notes From Canterbury, N.Z.

Like the rest of New Zealand and Australia, Canterbury was thrilled by the feat of Squadron-leader Kingsford Smith and his gallant crew in their successful crossing of the Tasman Sea. The flight of the "Southern Cross" from Sydney to Christchurch in less than twelve hours was such a remarkable feat that it aroused in many people exaggerated hopes about the possibilities of commercial aviation. The return flight which took about twenty-three hours has shown us the other side of the picture. On this occasion an hour's delay, slight miscalculation by the navigator or a stronger wind could easily have meant disaster for when the big plane reached Sydney, her petrol supply was almost exhausted. It will now be apparent that in the present stage of the development of flying a regular air service from Australia to New Zealand is impossible, thought with favourable weather and a large enough machine the flight may not seem difficult.

Sir Benjamin Fuller was in Christchurch a few weeks ago discussing with architects the plans of his new theatre. He hopes to have the site cleared by November, the new structure fairly started before Christmas, and the completed building opened for business in August of next year. Tenders will be called at an early date.

Taking the September figures alone the building trade would appear to be in a worse position than last year, but a comparison of figures for the last six months, with the corresponding period of 1927, shows a substantial and gratifying recovery. The two sets of figures are:—

	1927	1928
September	£93,092	£68,046
Mar. 31 to Sept. 30	£321,559	£399,497

Contracts recently put in hand include several in the inner area of the city. D. Scott & Son are building shops and offices in Cashel-street for Mr. F. H. Steel. Additions for Mr. J. M. Mitchell in Bath-street are in the hands of J. Hammett & Son, and Mr. Charles S. Luney is the contractor for the alterations to the Skating Rink in Asaph-street.

During the year ended June 30, 1928, the architectural branch of the N.Z. Public Works Department prepared plans for 78 new works of a total estimated value of £751,060, of which so far 33 contracts to the valued £96,699 have been let. In addition 33 contracts to the amount of £172,570 for buildings designed prior to June 30, 1927, have also been let, making the total of works completed or under construction £269,269. The latter total includes £48,719 for second school buildings and £51,602 for hospitals, etc., designed for hospital boards.

Recently the Christchurch City Council submitted a proposal to the ratepayers to raise a loan of £220,000 to be expended over a period of four years, £189,000 for the reconstruction of streets carrying the greatest volume of traffic, £20,200 on new bridges and £10,800 on the plant required. The loan being carried by 3599 votes to 1363, an early start

is being made by the reconstruction of Lincoln-road and the rebuilding of the Carlton Bridge, which will be of reinforced concrete and is estimated to cost £8000.

The Waimakariri River Trust has decided to take a poll on October 31 to raise a loan of £100,000 for protective works. The danger to Christchurch of a big flood in the Waimakariri River has for the time being abated. An examination of the river since the recent big flood shows that none of the protective works has been damaged.

The New Zealand Railways are inviting tenders in Great Britain as well as locally for the supply and delivery of various equipment for the new workshops.

Commonwealth Tariff Decisions

The following decisions of more or less interest to the hardware trade have been made during October. By way of explanation, it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (7/8/28, and so on) the date on or from which the new decision took or takes effect:—

Iron and Steel—			
28/920	Bars, steel, tyne quality, 4½ in. x No. 9 gauge (B.G.), for use in the manufacture of Agricultural Machines and Appliances. (By-law No. 1814).	404	7/8/28
Machinery, Machines, Etc.—			
28/921	The reference to Shears, Rotary, Quickwork, in Consolidated By-laws, page 19, and in By-law No. 25, and T.D. 23/36 as amended by T.D. 23/269 are to be cancelled, but any such Shears as were in direct transit to Australia on the 8th October, 1928, may be admitted under Tariff Item 174. (By-law No. 1848.)	..	8/10/28
Paints, Colours, Varnishes, Etc.—			
28/922	Antimony Oxide, for use in the manufacture of the following, viz.:— Enamels, Lacquers, Cellulose, Paints and Varnishes, under security. (By-law No. 1349.)	404	2/6/27
Paints, Colours, Varnishes, Etc.—			
28/923	Antimony and Titanium Oxides, Compounds and Mixtures of, containing not less than 25 per cent. Titanium Oxide, for use in the manufacture of the following, viz.:— Enamels, Lacquers, Cellulose, Paints and Varnishes, under security. (By-law No. 1349.)	404	2/6/27
Regulators—			
28/925	Pressure, Air-operated. (By-law No. 1362.)	415 (a)	19/6/28
Calendars and Almanacs—			
28/943	Aluminium, with or without advertising matter printed thereon. Note.—The reference to Aluminium Sheets, etc., in Guide, page 45, is to be cancelled.	204(b)	15/10/28
Electrical Appliances and Materials—			
28/947	T.D. 28/447 having reference to Bakelite Dials is to be cancelled in view of the decision set out in T.D. 28/884.	..	..
Machinery, Machines, Etc.—			
28/948	Engines, Traction, parts of— Wheels— Tractor, solid cast centre, with or without solid rubber tires attached, imported separately (Parts Order No. 20). Other, if commercially usable on Traction Engines only. Note.—The Note and the reference to Wheels, etc., in T.D. 23/766, and the reference to Wheels, Traction Engine, etc., in Guide, page 390, are to be cancelled.	178(d)	11/10/28
Wheels—			
Traction Engine. See "Machinery, Machines, etc., Engines, Traction, parts of." T.D. 28/948.			
Electrical Appliances and Materials—			
28/964	Switches, tumbler, for use in the manufacture of Electric Heating and Cooking Appliances, under security. (By-law No. 1891.)	404	24/11/27

Enamels—			
28/965	Fusible, prepared, for metals	Free	12/3/28
	Note.—T.D. 28/203 is to be cancelled	Unspecified	
Paints, Colours, Varnishes, Etc.—			
28/966	Lithopone, containing in addition to zinc sulphide and barium sulphate not more than 5 per cent. of other matter, for use in the manufacture of Printing Ink, under security. (By-law No. 1392.)	404	5/6/28
Electrical Appliances and Materials—			
28/993	Condensers, fixed, Mansbridge type, tested to voltages not less than 600 volts (d.c.), for use in the manufacture of Battery Chargers and of Battery Eliminators for Wireless Receiving Sets. (By-law No. 1412.)	404	22/3/28
	Condensers, fixed, 1500 microfarads, for 12 volt current, for use in the manufacture of Battery Eliminators for Wireless Receiving Sets. (By-law No. 1413.)	404	22/3/28
Electrical Appliances and Materials—			
28/994	Wire, Copper— Cotton lapped and paraffined (known as insulated bell wire). Double cotton covered, the outer covering having a coating of paraffin wax (known as radio assembly wire). Note.—Samples have been forwarded to Collectors.	181(b) (1)	29/10/28

Door-to-Door Canvassing

(A Protest by 4/237.)

The door-to-door canvasser is becoming a pest in Australia. Commencing with the sale of small household trifles, in a more or less sporadic and unorganised way, the hawking business has now increased until it bids fair to reach the dimensions of the American industry. In that "land of the free," large and carefully planned campaigns are conducted by concerns possessing ample financial resources, and all classes of household wares are sold from house to house, either for cash or on time-payment. Salesmen are trained in the arts of persuasion, and coached to meet every possible argument and objection of the worried housewife.

It becomes a serious position when these operators, who are free from the taxation and overhead expenses of legitimate traders, are able to descend like locusts upon a territory already supplied by an established store of, perhaps, half a century's standing. They are enabled to profit by a preliminary survey of the field, selecting a class of goods which comes into direct competition with those offered by the local dealer. The method, in many cases, is to provide an inferior article which somewhat resembles that carried by the nearest shop, at a price which is sufficiently low to attract the unthinking buyer.

These canvassers are paid by results, and the percentage allowed on sales would astonish the average householder. The commission usually varies from 33½ to as much as 75 per cent. It almost certainly amounts to more than the profit secured by the local storekeeper, who, out of his gross profits, has to pay rates and taxes, wages, and delivery charges.

This form of competition is bad enough for the retailer when it is honestly conducted. It becomes intolerable when, as is often the case, it is accompanied by misrepresentation or worse. These people seem to be satisfied to make a sale. They seldom have any provision for the return of an unsuitable line, nor are they concerned that the buyer is saddled with an appliance which, perhaps, is liable to the loss or destruction of a part without any chance of replacement. In this category may be placed certain lamps, irons, and similar apparatus which, if a section be lost or damaged, the thing is useless, no spares being available on this side of the world.

It is not long since certain lines of brushware were intensively hawked throughout Australia, at prices which were abnormally high. These, it was

explained by the salesmen, were supplied direct from the factory, and would outlast any dozen of the ordinary sort which could be obtained at half the price in the local stores. The goods were, as a matter of fact, of quite decent quality, but not a whit superior to a number of our own Australian-made brushes, which are now of a grade leaving little to be desired. But the vendors have apparently vanished, and we do not hear of their returning to receive the grateful thanks of the householders who were fortunate enough to purchase these superlative products.

The latest proposition in the local market is that of a company who offer cabinets of table cutlery "straight from Sheffield." The canvasser unwinds a wonderful story of his firm's kindness of heart. Naturally they have only a limited supply of these goods, and, with a commendable generosity, and in scrupulous fairness, they have apportioned the quantity available so that each suburb of this great city shall receive its share of these treasures. One sad case is quoted where the salesman, while talking to the lady of the house, found, on consulting his order book, that that particular district already had its allotted quota. This was serious indeed. But the good lady need not despair. As a special favour he would, if she decided to buy, arrange to rob another suburb of one of its prescribed number of cabinets, and himself accept the shame and disgrace which would follow if the fraud were discovered.

It is pleasing to know that the lady in question was so self-sacrificing as to decline either to deprive the next district of its legitimate share, or to allow this poor canvasser to accept the risk of exposure.

While there may be no objection to door-to-door selling if fairly handled, it is obvious that the whole thing takes on a sinister aspect when such tricks as these are used to induce sales. Householders should bear in mind that, in buying from a stranger at the door, they have no possible redress if they find themselves deceived, whereas their own established supplier has every inducement to give his customers permanent satisfaction.

Even if the householder is inclined to purchase from hawkers, he or she is entitled to demand that the caller shall at least be of decent character and of correct manners. There is, unfortunately, abundant evidence to show that many of those working in the suburbs of Melbourne and Sydney at the present time are doubtful as to character, and often abominable in their demeanour.

A feature of the type operating now-a-days is the persistency of the opening remark: "I am a returned soldier." This is advanced as if it should excuse any imposition, or any rudeness in manners. It is the answer to any objection as to the quality of the proffered article, or demur at the price. It is time that it was clearly understood that no individual, whatever his claims, is at liberty to force himself or his unwanted wares upon the public in a menacing or truculent way. But are all these people returned soldiers? Or is this a convenient way of disarming criticism, and of inducing a feeling of sympathy on the part of the victim?

One is driven to the conclusion that the latter is the truth. It is difficult to believe that such a large proportion of the most undesirable type of hawker have served their country. At least, we may hazard the opinion that the many cowardly and often unclean fellows who attempt to bully a timid woman at her own doorstep would never have had the courage to offer for military service. Otherwise one would have to blush for our soldiers.

The authorities would be well advised to tighten up the administration of the law regulating hawkers. Any householder suffering from one of these pests should report the matter to the police. A few complaints from one quarter would quickly enable them to deal with the offender.

News from Abroad

British Imports of Metal

During the first six months of 1928 the United Kingdom imported a total of 78,611 tons of copper, the principal suppliers being the United States and Chile with 43,727 and 25,544 tons respectively. Australia's share of the imports was only 1420 tons.

In the lead imports, however, Australia's contribution came first—51,408 tons out of a total of 139,379 tons. The other principal contributors were Canada with 26,293 tons and the United States with 20,272 tons.

Altogether 70,317 tons of spelter were imported into Britain during the half-year, Belgium supplying 24,780 tons, Germany 12,949 tons and Australia 6633 tons.

Big Electrical Merger

A report cabled from London to Australia on October 27 says that sums of £10,000,000 in capital and £15,500,000 in assets are involved in a great electrical trade amalgamation, bringing together Metropolitan Vickers Ltd., of Manchester, British Thomson-Houston Co. Ltd., of Rugby; Edison, Swan Electric Co. Ltd., of London, and Ferguson Pailin Ltd., of Manchester. The latter's Sydney branch has a capital account standing in the balance sheet at \$25,444. It is claimed that closer co-operation will result in the elimination of expenditure and reduction of selling prices, enabling the British electrical industry to meet foreign competition.

Copper Ore Treatment

Tests conducted by the Bureau of Mines, Department of Commerce, U.S.A., in co-operation with the Michigan College of Mines and Technology have demonstrated, that by the use of the "flotation process" the recovery of copper from amygdaloid ores in the Michigan copper mines district can be greatly increased, thus adding extensively to the prospective mineral output of that important district.

With an average additional recovery of two pounds of copper per ton by the flotation method the district would yield, without any additional grinding 3,240,000 pounds (1446 tons) of copper more per year. If the daily tonnage of amygdaloid ore be crushed to flotation-feed size, flotation would give an additional recovery over present practice of roughly 10,800,000 pounds (4821 tons) of copper per year.

Nickel Merger

According to "The World" of New York, Canadian and British interests have acquired control of the International Nickel Co. This company will probably be merged with the Mond Nickel Co. Ltd., thereby bringing about a combination controlling 90 per cent. of the world's nickel. Terms of the merger are said to include a cash payment of 7,500,000 dollars (£1,500,000) to the British company, and 18,750,000 dollars (£3,750,000) worth of 7 per cent. preferred shares for outstanding preferred issued of the same company. It is understood that the consolidated company will have a Canadian charter to avoid being amendable to the Sherman Anti-trust Law.

The headquarters of the International Nickel Co. are in Hall-street, New York, U.S.A., while the Mond Nickel Co. Ltd. are of London and Clydach, in Wales. Sudbury, in Canada, and New Caledonia, where the International Company have a branch, are the two principal sources of production of nickel ore.

Crude Oil From Coal

The directors of Motor Fuel Pty. Ltd., have announced the results of some recent tests made at their commercial production plant at Slough in Buckinghamshire, England. A plant capable of

treating ten tons of coal per day has borne out the claims which the company has made in connection with its low-temperature distillation patents.

It is reported that the results have proved the company's process to be not only highly satisfactory from the point of the amount of crude oil obtained from coal, but that it can be operated on an economic basis. In one case seven tons 14 cwt. of Nottingham coal were treated and the crude oil produced was 230 gallons, or 30 gallons per ton. In another case, eight tons 17 cwt. of Lancashire Cannel coal were treated, and in this case 720 gallons (81 gallons per ton) of crude oil were produced.

The directors of Motor Fuel Pty. Ltd., express the view that the time has come when the distillation of oil from coal at low temperature can be operated commercially, and they have, therefore, acquired an important site in the Nottingham coal-field area for the erection of an oil refinery.

Sheffield Cutlers' Move to Africa

Clarke, Shirley & Co., one of the oldest firms in the Sheffield cutlery trade, is establishing itself at Germiston (on the Rand) and starting up a cutlery factory there (reports "South Africa"). For many years the firm has specially catered for the South African market and notably for the cheaper grade of knife, largely sold to natives, but since the war German manufacturers, by inordinate price-cutting, have captured most of the cheaper trade, and hence the decision of the Sheffielders to establish their own factory in South Africa. The Clarkes visited Johannesburg last Christmas, and decided on their plans after taking stock of the position, states the report, adding: One of the brothers stayed at Germiston to superintend the building of the new factory, while the other returned to Sheffield to wind up the business there and make preparations for the migration. The whole concern, plant, machinery, material, and men, will be transferred to South Africa. This process is rapidly nearing completion and the firm anticipates sailing for South Africa this month. This will be the first Sheffield venture of its kind in South Africa, but it is by no means the first occasion of a Sheffield firm establishing works in the Dominions.

Ship-Building Losses

According to London cablegrams a scheme has been put forward for re-organising the share and loan capital of William Beardmore & Co. Ltd., ship-builders, of Glasgow and elsewhere. It is proposed to write down the cumulative preference shares of the company to 10/- each and cancel the four years' arrears of dividends. Ordinary shares are to be written down from 20/- each to 1/- each. It is also proposed to issue various debenture stocks, totalling in all £4,150,000, in order to meet the claims of existing creditors, including the British Treasury.

The last balance-sheet of the company was issued in December, and covered the two years ended December 31, 1926. It showed that for 1925 a loss on trading of £43,095 was sustained and that, after paying debenture and note interest and deducting the amount brought in, a total debit balance of £192,885 resulted. In 1926 the trading loss was £540,012, which was increased to £953,523 by interest charges, so that, although the general reserve of £700,000 was appropriated, a debit balance of £253,523 had to be carried forward. The depression in the iron and steel and shipbuilding industries was said to be the cause of the plight of the business. The board appointed a committee of investigation to examine the affairs of the company, and the present proposals are the outcome of the work of that body.

The Art of Drop-Forging

From an Address by HUGH AIKMAN, Secretary of J. H. Williams & Co.

Have you ever thought of the centuries of effort that have made possible the manufacture of drop-forgings, and the creation of that apparently simple wrench you use? In this country alone literally millions of wrenches of almost innumerable types and patterns are produced every year. The great majority are of wrought steel and in their manufacture the forging art plays an indispensable part.

Forging are made by hammering pieces of metal into the desired shape and size. This process is very old, some of our knowledge of it coming to use through the mists of antiquity. In the Bible are found a number of references to it. Among them, Genesis IV, 22 speaks of Tubal-Cain as "an instructor of every artificer in brass and iron." In Isaiah, LIV, 16, we read, "Behold, I have created the smith that bloweth the coals in the fire and that bringeth forth an instrument for his work" Egypt, the home of our old friend Tut-ankh-amen, furnishes interesting evidence of this very ancient art of forging. Something like 5500 to 6000 years ago, Egyptian kings began to show in their rock tomb scenes, among others, of everyday life. These pictures, with various relics found in the same tombs, give a fairly clear conception of the industry in that era.

Apparently the metals most frequently employed were copper, silver and gold. Tin was probably not yet introduced and, consequently, bronze was still unknown. It is probable that iron was known, but not much used. Indeed, since the earliest Egyptian name for iron signified "stone from heaven," it is possible it was not yet smelted and was known only in its meteoric state. It seems to have come into more common use about 3600 years ago.

Among the early Egyptian pictures are several showing smiths at work. In one, the furnace consists of what seems to be merely a pile of charcoal. The fire is blown by several workmen who apply their breath by blowing through long pipes of hollow cane, with clay fire pieces to protect the wood from the fire. Other workmen are pounding metal in the manner then employed for either copper or gold. The hammers are merely semi-globular pieces of metal, probably copper, of a size to be grasped in the palm of the hand. Handles were not yet invented. They bear a close resemblance to the round stones long used for hammers, of which they were the direct descendants. The anvil is apparently a block of wood with a flat metal top; the forging, as here shown, was done while the metal was cold. Later, the hammer was lengthened like the head of a mallet and of a size to be gripped by the hand, but still without a handle. Babylonian relics discovered in Nineveh indicate that by the ninth century B. C. hammers had been given a handle which was fitted into a socket in the head. It is to be hoped the inventor was successful in collecting royalties on his patent covering such a valuable improvement! It multiplied by many times the force of the blow which could be struck, in comparison with that possible when the mallet head was held in the hand, as earlier in Egypt.

Water Wheel Power in Forging

From these crude beginnings the forging art gradually developed through improvements in furnace, hammer and anvil, though all operations con-

tinued to be performed by hand. At what date water-wheel power was first introduced in forging is uncertain. It was used for working the bellows, possibly at the beginning of the fifteenth century, but apparently was not applied to hammering before 1500 A. D. In theory, this application of power would seem to have been a tremendous advance. In the sense that it superseded manual labour, it was. In practice, however, the design of these early, so-called "tilt" hammers was such that they were not very efficient. Though gradually increased in size and improved in design, as late as 1838, only 90 years ago, they could forge pieces of but limited thickness. At that date there was no hammer in England capable of forging the paddle-wheel shaft of the S. S. "Great Britain," then building. To meet this need, James Nasmyth designed a hammer with the direct, vertical action of the pile-driver, but lifted by steam. This he patented and in 1842 built a hammer of 3000 pounds. This marks the beginning of real forging power.

The Drop-Hammer

For some years thereafter, however, practically all metal parts made in any quantity, aside from cutting tools, were still cast. But the rapid advance in the mechanical arts, including in this country the system of manufacturing duplicate and interchangeable parts, and the growing necessity for a stronger and more reliable product than castings, made imperative some improvement in the process of forging by hand. This need, in 1853, led Colonel Samuel Colt to adopt the recently invented drop-hammer to make parts for his firearms, including the famous Colt revolver.

Drop-hammers are built on somewhat similar lines to a pile-driver, except that they have a solid, massive base which absorbs the force of the blow. In other words, the base performs the same function in this respect, as the blacksmith's anvil. On two sides of this base, or anvil, are attached uprights, like those of the pile driver. Between these uprights the hammer, or, as it is called "ram," is fitted loosely so that it can slide freely up and down—again like the pile-driver. In operation the hammer or ram, after being raised between the uprights to the desired height, falls or drops by gravity. Hence the name—"drop-hammer."

Drop-Forgings

Drop-forgings are made in dies which consist of two solid steel blocks, the upper and the lower. In the upper block is cut or engraved an impression of approximately half the article to be drop-forged. The impression of the remaining portion of the forging is cut in the lower block. When the two blocks are placed one above the other, the impressions in both, taken together, are the exact form desired in the forging. The cutting or engraving of these impressions is done with as much care and skill as used by a silversmith.

The upper die is firmly fastened to the lower surface of the ram, which moves vertically between the two uprights of the drop-hammer, as already described. The lower die is similarly attached to the base, or "anvil," of the machine, and remains

stationary. The hammer works automatically. The mere pressure of the forger's foot upon the operating lever causes the ram, bearing the upper die, to rise to a predetermined height. It is then released and falls. The blow on the heated metal to be forged, placed by the forger on the lower die, forces the metal into the impressions cut in the faces of both dies. By a series of such blows drop-forgings are made.

As it is not practicable to use only the exact amount of metal which appears in the completed forging, a surplus of material for each piece must be provided. The blows of the hammer force this surplus out between the dies in the form of a thin sheet of metal running entirely around the forging and called "flash." This flash is removed from the forging by a shearing operation in a trimming press, operated by power. A separate and distinct set of tools, called "trimmers," is provided for this work, which, in the case of large forgings is done during the forging operations, while the part is hot. Usually small forgings are allowed to cool before being trimmed. The first method is called "hot" and the second "cold-trimming."

From what has been said, you will see that the art of drop-forging is nothing else than "machine blacksmithing." It makes possible the exact duplication in large quantities of tough, wrought metal parts at far smaller cost than would be possible by the old process of hand forging. In fact, exact duplication was impossible by the hand process before dies were used. Drop-forgings are used in engines, machinery, machine tools, hand tools, bicycles, automobiles, and so forth. The list could be extended almost indefinitely, for it really covers an amazing variety of mechanical devices (including the wrench you use). It is not too much to say that the manufacture of some of these devices in anything like their present volume and quality, and at a practicable cost—automobiles, for instance—would be impossible without the use of drop-forgings.

Pottery and Glassware

Fireproof Porcelain From France

Walter A. Cox Ltd., 195 Clarence-street, Sydney, are showing a rather attractive range of fireproof porcelain kitchen utensils lately received from Paulus & Co., Quievrechain, France, who are the manufacturers. The lines comprise casseroles in ovals and rounds, coffee and teapots, milk boilers, pie dishes and stewpans. The latter are shown with both porcelain and metal handles. With the exception of casseroles which are of usual size and shape, the other lines are interesting from the fact that they are bowl-bottomed on the inside the advantage of which is obvious.

Swedish Crystal

A. J. Van Dugteren & Sons, of 116-18 Clarence-street, Sydney, are displaying a new range of hand cut and engraved domestic and ornamental crystal ware on behalf of Orrefors Bruks, Sweden. Many and varied are the cuttings while the consistent quality of the crystal is well up to the standard set by this firm. For many years their engraved amber crystal has found favour with American and Continental buyers with the result that it is now being introduced into Australia in the form of vases, bowls, fruit dishes and decanters. Apart from the colour the glass is unique inasmuch as portion of it is left unpolished giving a soft matte appearance. The engravings are the work of Edwin Hald and Simon Gate, two of the foremost artists in Sweden who are permanently retained by Orrefors.

New Ware From Staffordshire

Lewis & Carmichael Ltd., of 277 Clarence-street, Sydney, have opened up new samples of chinaware from England.

Baker & Co. Ltd., of Fenton, are the makers, a firm established as long ago as 1790. The new ware has an uneven surface and is glazed, and hand pointed with coloured and green leaves, the rich colours and general treatment making a very bold appeal. The series consists of tea services, with octagonal cups and plates, sandwich trays, jugs, vases, cake dishes and nut jars. A Greek vase, really a 12 in. globe, is most striking by reason of its size and colour. The "Condora" pattern is the name given to the series.

Samples are also being shown of earthenware dinner and tea services, the smart designs being surprisingly good for this material. One set is decorated with a neat floral border, pictures of birds being shown at intervals. Red, black and white and tango are the colour themes in other sets, medallions of flowers being let in at intervals. Dinner services of the Chelsea shape are shown in peacock, majestic and matte gold, the gold knobs and handles setting off the colour nicely. A bird of paradise set is an attractive feature, and the old willow pattern is shown with very strong coloring, while others are treated with narrow borders.

British and Continental

Henry F. McCrea Pty. Ltd., of Arco House, Cole's lane, Melbourne, are displaying the samples of several overseas principals.

From John Beswick, of Longton (not to be confused with another maker of the same name) comes a range of fancy earthenware which although low price throughout is yet quite new in style and finely treated as to colour and finish. Many of the shapes are unusually attractive, and the whole selection represents exceptional value.

Bishop & Stonier (1926) Ltd., also of Longton, are makers of "Bisto" china and earthenware. This range includes high grade tea and dinner ware, a feature being the colour combinations, which are bright and in modern taste. Both white and cane bodies are used to advantage, the addition of the popular powder blue tone being specially effective.

For Porzellanfabrik Schonwald, of Bavaria, china, tea and dinner ware are shown in an excellent selection; while from the same manufacturers' Arzberg factory another selected lot of china comprises celery trays, fruit and olive saucers in various shapes and decorations which should prove of interest to those able to indent. The grade of this ware is such that the prices come as a surprise. There is childrens' ware and mugs and plates also in this section, as well as "open" or basket ware, the latter of a plain white type which finds ready demand to-day.

Two manufacturers of Bohemian crystal, Emerich Matejka and Franz Scheibler, present ranges of this this ware which are well worth inspection by buyers. Here again values are offered which enable good business to be done. Not only is the glass of good colour, but the cuttings are of a high order and the designs well carried out.

Invention of New Electric Lamp

A Stockholm engineer, Ringhold Andersson, has brought out a new electric lamp with two light filaments, which can be lighted both together, or one at a time, thus varying the lighting power at will by using one switch only. By using filaments of different power three different strengths of light can be obtained from the same lamp. The invention has been patented in most countries and is said to have aroused considerable interest amongst experts.

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.
For English prices, see The Month's Cablegrams on page 372

Sydney, October 31, 1928.

The past month's trading has been affected to some extent by the trouble resulting from the shipping strike, but, apart from that aspect, conditions have been very satisfactory. Some lines have shown greater activity than others, and stocks in some directions were not as large as demand proved necessary. The reports from the country show a very creditable turnover, and country storekeepers are likely to have very satisfactory figures written with them between the close of the month and the close of the year. Some variations in price are shown in our list against last month, but these are due generally to temporary shortage of stock, which will be augmented by arrivals scheduled. Possibly jute fabrics met with keener competition than for some time past, and Calcutta prices have fallen considerably. Early purchases have proved in some directions disastrous, and stocks held have been quoted at lower prices accordingly. Plaster, due to local shortage, advanced 2/6 per cask, temporarily, for interhouse trade. Oils are heavily stocked, and turpentine and resin are well held, with stocks reported low. Indent quotations are slightly higher than last month. Galvanised sheets sold well at list prices, and at times there has been a shortage of some sizes. Generally, however, this product has received attention. Tinplates sold well, and prices advanced higher than for many months for spot stocks, while indent parcels, ex ships en route, were quoted at a premium. Manufacturers are all busy, and trade is healthy, with orders generally a little behind due date. White lead was purchased in fair quantities, and local holders found ready buyers for parcels. Suburban trade is good, and money spent carefully. Every indication goes to suggest a satisfactory market for the remainder of the year.

Auckland, October 17, 1928.

The improvement in weather conditions is resulting in a better tone in the hardware trade throughout the country districts. Hardware merchants report a decided increase in country business and recent orders point to all round activity. A good deal of fencing has been going on which has meant a good demand for fencing wire and staples, preference being for English brands of wires for which prices are firm. A fair demand for corrugated iron is reported for farm houses and outbuildings, while dairy requisites and general ironmongery have also received better attention. So far the improved condition in the country has not spread to the city, but it is expected that better trade will be apparent in the near future. Up to the present residential building is quiet but the outlook is better there being more inquiry than for some time past. Pig lead is firmer at £31/10/-. Ingot tin also shows an advance and is quoted to-day at 2/9. The demand for water pipe is good, merchants reporting fair sales for leading sizes. White lead and linseed oil are receiving better attention and the outlook for painting is good for the season before us. Heavy deliveries of woolpacks have been made during the past few weeks ready for the shearing season.

Christchurch, October 16, 1928.

Local merchants report that with the advance of spring, business shows improvement. There is every prospect of a general increase in trade as the season advances. While the Parliamentary elections are on, business is bound to suffer somewhat, but after the polling on November 14, people will soon settle down. For the second time in the history of New Zealand, clocks were advanced in accordance with an Act of Parliament. This time only half an hour advance is being made instead of an hour last year. This will be a great boom to certain assistants, who will obtain an extra half hour's recreation in the surf or at other favourite sport. The change will welcome to the sporting and working men of the cities will not be greeted by farmers with any marked enthusiasm. While there is plenty of money available for investment the Christchurch City

NEW ZEALAND PRICES

	Duty.	Auckland. Oct. 17	C'church Oct. 16	Dunedin. Oct. 17	Wellington Oct. 19
IRON—					
Bar—		£	£	£	£
English ...	Free	20	22/	21/	21/
Shoeing ...	"	22	23/	21/	22/
Steel ...	"	14 10/ to 20	20	22/	15/ to 21
Pig ...	"	7	10/6	10/6	9/- to 10/-
Plate ...	"	20 10/	24/	25/	22/
Hoop ...	"	21/6	25/6, 37/6	30/	25/ and 35/
Sheet, Blk. to 20-g. ...	"	21 10/, 22 10/	24/6	24/	22/6
22 & 24 g.	"	23 10/	26/6	26/	24/6
Galv. Cor.—	2/-				
First ...	"	26	27/6 Build'rs	28/	26/
Second ...	"	24	25/-	26/	25/
Local ...	"	26			
Do., Plain	Free				
24 & 26 g.	"	28, 29/ 0/	29/6, 32/	32, 34, 36	28
Pipe—Galv.	Free	50%	47½% off	42½	45% off
Black	"	60%	50% off	50% off	50% off
Wire—	"				
Galvd. ...	"	15/6, 18/-	16/	16/	17/ to 18/
Black ...	"	15/6	16/	15/	
Barbed ...	"	19 10/23 10/	21/-	21/	21/ to 22/
Nails	2/4/- c	19/-	20/	22	21
N Z.	"	19/-			22
Lead—Pig	Free	31 10/	33/-	21/	32
" Sheet	"	34, 10	36/-	34/	37
" Shot	10/	75/	75/	80/	75/
Tin—Ingot	Free	2/9	2/8	2/5	2/8
Plates	"	27/6	40/	40/	37/6
Zinc—Sheet	"	7½d. lb.	9d. lb.	8½d.	7½d
Quicksilver	"		6/6 lb		
Cement—					
Imported	1/- cwt.		28/6 cask		
Local bag	"	5/5	7/-	6/	5/11
Slates	Free				
P. of Paris ...	"	24/-	30/-	28/-	27/
White Lead	6/- cwt.				
Best	"	54/	56/	56/-	58/
Second	"	53/			57
Blast. Powder	Free	1/8	2/-	1/7	1/8
Rope—	20%				
Manila, Star	"	106/	106/	111/	111/
" O.	"	102/	102/	107/	107/
Flax, N.Z.	"	79/ 86/	86/	88/	88/
Connacks	Free				
44-in. ...	"			12/9½	12/5½
46-in. ...	"			12/9	12/4½
48-in. ...	"	13/6	13/8	13/2½	12/11
Woolpacks					
Full	Free	5/3	5/3	4/6	5/3
Oils—					
Lins'd, raw	6d.	5/2	N.Z. 5/- Eng 5/3	5/2	5/
Castor	Free	5/-	5/6	5/5	5/6
Colza	"	7/9	8/	8/-	7/9
Kerosene	"	13/9	14/9	14/6	13/9
Turpentine	"	5/3	5/6	5/6	6/6

Council will endeavour to raise the first of its £220,000 roading loan at 5½ per cent. Building Societies, which receive deposits that can be raised at call, report that money for deposit is being offered very freely just now. The building and allied trades are kept busy, but there is still a good deal of unemployment. On relief works under the Public Works Department, 353 men are engaged at present, all on road construction, but many others are not physically fit to stand this strenuous work and are unwilling to be absent so far from their homes. Prices of various metals are fairly stable, and there are no alterations to report in the price current column. Fencing wire sales are quiet, with ample stocks of netting, standards, etc. This month (November) will see the big annual Agricultural Show in Christchurch at the same time as the N.Z. Cup races, and it is expected that the many farmers visiting the city will place substantial orders.

Dunedin, October 17, 1928.

Although business in general is not as satisfactory as was anticipated the hardware section has little to complain about, while better things are confidently looked for with the coming of the warmer season. Though very boisterous weather prevailing of late has delayed several building contracts and this with the flooded state of the rivers up country undoubtedly has affected business adversely. Despite all this yet another palace of pleasure is about to be erected in the city, and that on a more magnificent scale than those so recently established here. Improvement of shop frontages in our main thoroughfares is still in evidence—marble and granite facings being specially prominent. Our new town hall is well advanced in the builder's hands and the Public Trust building, one of the largest in the city, is approaching completion. The Summer Show of the Agricultural and Pastoral Society will be held on November 21 and 22, when the usual inflow of country visitors may be expected. As regards prices galvanised corrugated iron is moving at the advanced figure of 28/- for first brands; while second and local remain at 26/-. Ingot tin has been reduced to 2/5. The only change in the oil section is that turpentine has fallen to 5/6. Corn sacks are ruling at 12/5½d. for 44 in.; 12/4½d. for 46 in.; and 12/11 for 48 in.; while woolpacks are quoted at 3/11½d. for 48 in., loose top, 3/7½d. for 42 in., and 3/11½d. for 54 in.

Wellington, October 19, 1928.

For the year ended September 30, which completes New Zealand's export season, exports totalled £55,730,492 and imports £44,126,958, leaving a splendid surplus of exports of £11,603,530, and the bank returns for the September quarter showed a heavy surplus of deposits over advances of £7,476,594. This shows that New Zealand is well over the recent period of depression, and there is every hope that we are starting on a period of prosperity and activity in trade. The outlook for the coming export season is very good and business all round should show considerable improvement and decided activity. Hardware houses reports trade as satisfactory and fully up to normal for the time of year. Metal prices are fairly steady, with one or two minor reductions, and stocks are moderate but adequate for present requirements. Bar iron and steel have recently been reduced £1, and black sheet iron is £1 lower. Sheet lead is down £2. Corrugated iron, nails and other builders' lines are steady and in satisfactory demand. Lead and tin are a little quiet at present. Fencing wire has had good sale, but the seasonal demand is over for the present. Linseed oil is 3d. lower with good supply and steady demand. Other lines are unchanged.

Brishane, October 31, 1928.

October, usually a good month for business, has proved very disappointing for hardware merchants, owing to the exigencies of the waterside strike. Heavy hardware has been fair, although somewhat spasmodic, and prices are firm. Stocks are improving, after being on the light side. Fair demands were received for shearing supplies, but not up to last year's figures. Prices generally are unaltered, and stocks improving. Country buyers are slow to operate, owing to a rumour that there will be an all-round slump before the end of the year. Relief storms have been of great benefit on the Darling Downs, and have helped to save the wheat crop. There has been a good run on wheat farms; although things are still in a precarious condition in the far west and central west. Fencing wires have been moving fairly, although the demand has been erratic. Prices are firm, and stocks in light supply owing to the strike hold up, but gradually being worked back to normal. Barbed wire and wire netting have been uncertain, but will probably liven up. Stocks are now more plentiful. Wire netting has had a fairly good call, and stocks are light, with prices steady. Paints and oils have been moving fairly well, and there is a fair amount of work in and around the metropolitan area. White lead has been moving freely, with prices unaltered, and stocks are ample. Linseed oil sales have been good, and stocks of imported are consequently light, with prices firmer. In the building trade things are quiet, but local cement is in good supply, and there is no likelihood of cellars running short for some time. Builders' ironmongery has been very quiet, and prospects are not bright. Stocks are heavy, and prices inclined to be easier. Crockery and glassware have been very quiet, and prices are normal, with prospects of increase at any moment. Enamelled ware has been slow. Woolpacks are jumpy, with stocks full, and prices inclined to ease. Woolpacks, which have been moving steadily, have now eased up, and will probably remain quiet until January next. Market rates are rather uncertain, and prices are likely to drop. Stocks are fair. Cornsacks have been receiving a deal of attention, and some fair parcels have been sold, but, as the yield will fall short of last year's figures, somebody will have to pay the piper. Prices have dropped.

Adelaide, November 1, 1928

Trade was disorganised during the greater part of the month under review, owing to the waterside strike, and things are only just getting back to normal. Stocks of many heavy lines became short, and an increased volume of inter-house trading between merchants was noted. Sales of round mild steel were good, several 10-ton parcels of ½ in. and ¾ in. being made at £13/10/-. Galvanised wire was sold at £15/10/- for 8 g. and £16 for 10 g. Several shipments of carbide for local firms were aboard the "Lygnern," which was wrecked in Fremantle, and the consequent shortage of stocks made merchants anxious to secure whatever was offering on the spot. Prices ranged from £29/15/- to £31 per ton. Great activity was noticed in galvanised tube, and, for a part of the month, ½ in. and ¾ in. were very scarce. Several parcels on the spot, and many large parcels to arrive, changed hands at 63½ per cent. off list, and 2½ per cent. Some transactions in other sizes noted were:—5000 ft. galvanised 1 in. at 61½ per cent., and 2½ per cent. 800 ft. black 3 in., 2000 ft. each 1 in. and 1½ in. at 61½ per cent. net, 1000 ft. galvanised 2½ in. at 60 per cent. and 2½ per cent., and 2000 ft. galvanised each 1 in., 1½ in., and 2 in. at 61½ per cent. and 2½ per cent. off list. A sale of 12½ g. high tension wire x 850 was made, inter-house, at £18/10/-. and 2 tons American resin cleared at £27 net. A sale of 3 chests A.B.T.N. shellac was noted at 2/9. Ingot tin closed at £228 per ton. The only alteration in the prices

listed is a reduction of £1 per ton in lead pipe, consequent upon the reduction of a similar amount by Melbourne manufacturers.

Melbourne, Oct 5, 1928.

Merchants continue to complain about the state of business, which is said to be consistently bad. Further questions reveal the fact that while turnover is undoubtedly below normal, certain sections of the hardware field have had their share of prosperity. One authority explains that much of the business secured during October in heavy metals was due to late arrivals of shipments owing to the waterfront strike. This state of affairs still continues to some extent, although the volunteer labour is said to have worked with unexpected efficiency. The fact remains that deliveries and loadings are not yet satisfactory. Fencing materials sold in moderate quantities only. For parcels of 10 and 5 tons of galvanised wire the prices paid were: No. 8, £15/17/6; No. 9, £16/5/- less 2½%; No. 10, £16/17/6. Barbed wire sales included 10 tons No. 12 at £21/10/- and 5 tons No. 13 at £22/10/-. Wire netting also found but poor demand. For 5 miles of 36 x 1½ x 17 one or two buyers paid £33/15/-, and 3 miles 42 x 1½ x 17 went at £42, while of other sizes no record of sales was noted. Galvanised iron pipes were in better demand. An indication of ruling prices may be gained by lots as follows: 10,000 ft. ½-in.; 15,000 ft. ¾-in; and 5,000 ft. 1½ in. and 5,000 ft. 2 in. The assortment was purchased at 60% off list. A line of red steam pipe, 5,000 ft. changed hands at 57½% off. A parcel of black sheets 6 x 36 x 22 and 24 gauge brought £24. The quotation for ingot tin was £227/10/-, 2 tons in one transaction was the only handling traced during the month. In building materials an improved inquiry was observed. G.C. iron was selling in quantities of 5 tons here and there, the price realized for 26 gauge being £24 less discount. Municipal councils were apparently the largest users of cement, principally for road formation. Australian makes show a tendency to decline slightly, the price for good English brands being firm, but supplies are limited. Paints and oils met with improved demand, prices being steady. Australian linseed oil would appear to have been stabilized, the competition which has been noticeable in the past having ceased. Sales reported were 25 cases raw oil at 4/2, and similar parcels of boiled at 4/4. The market for wire nails is still rather unsettled. Makers do not seem to be in agreement as to quotations, various rates being mentioned. Sales were observed as low as 17/- in some cases, and slightly less than this has been hinted at. The position will probably continue until some arrangement is made amongst the manufacturers.

The Month's Cablegrams

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date	Copper Electrolytic Per Ton			Tin Standard Per Ton			Silver Standard Per Ounce	
	1927	1928		1927	1928		1927	1928
Sep 30	£ 61-61½	£ 71½-71¾	£ s. d. 266 7 6	£ s. d. 227 17 6	d. 25½	d. 26½		
Oct 4	61½-62½	71½-71¾	269 7 6	222 10 0	25½	26½		
.. 10	62-62½	71½-71¾	266 7 6	220 17 9	25½	26½		
.. 17	62½-62¾	71½-71¾	262 8 9	220 13 9	25½	26½		
.. 24	62½-62¾	72½-72¾	267 7 6	220 12 6	25½	26½		
.. 30	62½-62¾	74½-74¾	261 12 6	227 7 6	26½	26½		
Nov 5	63-63½	74½-75	269 12 6	229 8 9	26½	26½		

The stocks of tin in the United Kingdom at the end of October were 20,438 tons, the deliveries for the month 2,579 tons, the quantity on spot 1,323 tons, and the quantity afloat 1,915 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—October 3, £22/1/3; October 10, £22/1/3; October 17, £23/3/9; October 24, £22/2/6; October 31, £22/0/0; November 5, £21/6/3.

On September 29, the stocks of pig lead in Metal Exchange warehouses in Great Britain aggregated 997 tons.

Spelter.—The spot quotation for spelter, as cabled from London, have run as follows:—October 3, £24/2/6; October 10, £24/0/0; October 17, £24/2/6; October 24, £24/0/0; October 31, £24/1/3; November 5, £24/2/6.

Tallow.—Following are the statistics for October and particulars of the latest auction sales:—

Oct.	Casks	Date	Casks Offered	Casks Sold	Mutton Med., per cwt.	Beef Med., per cwt.
Imports	1371	Oct. 3	883	646	40/6	40/6
Deliveries	1230	.. 10	661	439	41/-	41/-
Stock	1235	.. 17	354	148	41/-	41/-
		.. 24	Nil			
		.. 31	Nil			

Travellers

From Europe

Col. C. E. Merrett, of Welch, Perrin & Co. Pty. Ltd., and president of the Royal Agricultural Society of Victoria, returned to Melbourne during the month from a trip to Great Britain and Canada.

Mr. W. J. Smith, director and general manager of the Australian Glass Manufacturers Co. Ltd., Waterloo, Sydney, returned on October 13 from a nine months' business trip to the United States of America and Europe. He was accompanied by his daughter.

New Electrical Insulation

By means of a process in which metallic magnesium is employed, the Westinghouse Electric & Manufacturing Co. have perfected a new insulating material, which is said to represent a very definite step forward in electrical progress. This material makes possible the production of electric heating devices with a higher efficiency and longer life than can be secured with the use of mica, asbestos or other standard insulating materials.

Known to the trade as "Corox" this new material or process was invented by a Norwegian, Christian B. Backer. The Westinghouse Co. purchased the American rights some years ago and their engineers have been engaged ever since in reducing the Backer principle to practice. This work has been successfully completed and the new insulation is being regularly used in several of the company's products.

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney Oct. 31	Melbourne Nov 5	Adelaide Nov. 1	Brisbane Oct. 31		Duty	Sydney Oct. 31	Melbourne Nov 5	Adelaide Nov. 1	Brisbane Oct. 31
Pig Iron ... 40/	£	£	£	£	Zinc—	£	£	£	£	£	£
British ...	7 5/	7 10/	...	...	Sheet 9 to 18g (7 x 3 & 8 x 3)	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.	...
Swedish ...	7 10/	7 5/	...	...	Perforated	35%, 45%	4/9	7	...	5/6	...
Lithgow ...	7 10/	7 5/	7 10/	...	Spelter ... 10%, 20%	...	32	301 10/ to 37	41 to 42	54/	40/
Newcastle ...	23 basis	English 21 18/6	21	22 10 basis	" Elec. ... 25%, 40%	...	1/9	1/5	...	1/9	...
Bar and Rod ... 44/ 120/	19 basis	19 basis	19 10	18	Bolts & Nuts—	...	75/ 59/	63/ 47/ 41/	41/ 38/	26/8 to 73/	...
Australian ... 44/ 120/	19	18	20	19	Cuphead 3"	35%, 50%	76/ 57/	61/ 45/ 39/	41/ 36/	...	...
Mild Steel ...	22	18	21	20	" 4"	...	70/ 64/	56/ 43/ 37/	40/ 34/	...	...
Bar ...	20 basis	19 basis	19	21/ basis	" 6 1/2" to 9"	...	65/ 49/	52/ 39/ 35/	37/ 33/	...	...
Angles ...	29/9 basis	32	33/	32 10/	" 9 1/2" to 12"	Free	61/ 47/	49/ 38/ 34/	36/ 31/	...	...
Tees ...	25	24 10/	25	25 5/	Tanks, 400-gal. 200-gal.	F., 10%	59/ 45/	47/ 36/ 32/	33/ 30/	5 10 0	5
Hoops ...	26 10/	26	26 10/	28 15/	Tubing—	...	3	2 5/	3 10 0	3 10 0	...
Black ...	26	26 10/	27 5/	28 15/	Black, up to 3"	...	65 off list	55% off	58% off	List 45% off	...
Galv. ...	20/ 60/	30/ 1	27	27	" 3 1/2" & up	27 1/2	55	60% off	35 off	5% on	...
Galv. Corr. 24g. ...	26 10/	26 10/	27 15/	26 10/	Galv. up to 3"	27 1/2	55	55% off	46% off	40% off	...
Orb 26 g ...	26 10/	26 10/	27 15/	26 10/	" 3 1/2" & up	27 1/2	55	37 1/2 off	20 off	5% on	...
Phoenix Cr. ...	26	26 10/	27 15/	26 10/	Steam, up to 3"	27 1/2	55	5% off	37 1/2 off	25% off	...
Galv. Plain 24g. ...	26 10/	26 10/	27 15/	26 10/	" 3 1/2" & up	27 1/2	55	10% on	20 off	...	...
Queen's Hd. ...	26 10/	26 10/	27 15/	26 10/	Wr'ght boil.	F., 5%	1/-	10d.	1/-	5/	...
Phoenix Cr. ...	26 10/	26 10/	27 15/	26 10/	Explosives—	10%	10d.	10d.	11 1/2	1/1	...
Fleur-de-lis ...	26 10/	26 10/	27 15/	26 10/	Hall's C.C.	...	10d.	10d.	11 1/2	1/1	...
Other ...	26 10/	26 10/	27 15/	26 10/	Curtis's	...	10d.	10d.	11 1/2	1/1	...
Sheet ...	26 10/	26 10/	27 15/	26 10/	Chilworth's	...	10d.	10d.	11 1/2	1/1	...
Black ...	26 10/	26 10/	27 15/	26 10/	Sporting ... 15%, 25%	3/6 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/	...	...
Baldwins ...	26 10/	26 10/	27 15/	26 10/	Diam. S'less	...	8/ to 8/6	8/8 to 8/6	8/8 to 8/6	5/	...
Plate ...	17 1/2 basis	15 basis	15	15 10/	Amberite ...	F. 5%	7/6	7/ to 7/6	6/9 to 7/6	75/	...
Steel ...	19 6/	21	19	20/-	Blast'g Gel.	...	65/	66/	74/6	78/6	...
Girder ...	18 5/	18 5/	...	...	Gel. Dyna.	...	56/ to 60/	56/ to 59/3	54/6 to 58/6	62/ to 66/	...
Fencing Wire ...	19 5/	19 5/	...	...	Gelignite ...	...	41/ to 51	51/ to 57/	46/6 to 51/6	58/ to 102/	...
American 8 ...	14 2/6	14 10/	14 10/	14 12/9	Dynamite ...	15%, 25%	55/	55/ to 60/	60/ to 85/	...	...
Austra'n 8 Bl. ...	14 13/6	15	15	14 13/	Detonators ...	5/ 6/	63/6	61	71/	90/	...
Galv. 10 ...	15 18/	16 10/	16	15 10/6	Shot—Chilled ...	...	61/4	58	58/	1/4	...
" 12 ...	16 9/	17	16 10/	16 17/3	Australian ...	Free	7/6	5/	5/8	8/6	...
" 12 ...	18 12/6	18 10/	18 10/	18 8/9	Cyanide Pot. ...	Free	7/6	5/	5/8	18/6	...
Barbed Wire, ...	24	...	...	...	Quicksilver ...	Free	15/	16/6	60/	60	...
Amern. 12-g. ...	25 10/	22 10/	22 10/	12—24 8/9	Sash Weights ... 35%, 45%	...	60/	21/	21/-	21/ cask	...
Austn. 12-g. ...	24 10/	23 10/	23 10/	12—25 10/	Sheep Shears ... F. 10%	...	21/ cask	6/3	7/-	6/6 bag	...
" 13-g. ...	26	24 10/	25	14—25 19/9	Cement—Imp't'd ... 20%, 30%	...	37/6 K.W.	35/	47/6	50/ cask	...
" 14-g. ...	26	24 10/	25	14—25 19/9	Aust. (bags) ...	1/6, 2/c	Pixie 35/-	8/	9/3	18/ bag	...
Wire Netting ...	£48/15/0	49/ 0/0	43/ 5/9	43/ 5/9	Plaster, Imp. ...	...	...	...	...	...	...
42 x 1 1/2 x 17 ...	£39/ 5/3	39/10/0	38	34/ 5/9	Slatcs (20 x 10) ... 30%, 40%	...	...	...	...	...	...
42 x 1 1/2 x 18 ...	£41/16/0	42/ 0/0	45	41/16/	White Lead—	8/ 10/ or	63/6	63/6	64/-	66/	...
42 x 1 1/2 x 17 ...	£33/ 2/0	34/ 0/0	33 10/	36/ 2/	Imported ... 25%, 30%	...	56/	60/	60/	59/6	...
36 x 1 1/2 x 17 ...	£41/16/0	43/ 0/0	41/16/	41/16/	Australian ... 20%, 30%	...	...	70 to 100	...	72/ to 80/	...
36 x 1 1/2 x 18 ...	£33/10/6	36/15/0	...	33/10/6	Oils—	...	...	...	...	Colonial 56.	...
36 x 1 1/2 x 17 ...	£35/13/0	34/ 0/0	...	35/13/	Linseed (raw) ... 9d., 1/	...	...	5/4	...	5/4	...
36 x 1 1/2 x 18 ...	£29/10/0	29/10/0	28	28/ 9/3	Imported ...	...	R5/	5/6	...	4/7	...
Nails—	...	...	...	...	Australian ...	...	C4/4 D5/6	C., 4/2	...	...	...
Horseshoe ... 12/ 15/	Less 10%	to 1/ lb.	1/ less 10%	List Price	Colza ... 6d., 8d.	...	...	6/-	...	...	...
Wire ... 5/6, 8/	23/6 basis	17/ to 20/	24/6 to 35/	26/- basis	Burning ... 9d., 1/	...	C 6/6	6/3	6/9	6/10	...
Roofing—	65/- cwt	65/cwt., 9/6	9/-	11/	Castor ... 2s., 2/6	...	...	8/	...	10/	...
Evenend ...	...	...	...	38/	China ... 6d., 8d.	...	...	8/6 to 10/	...	13/6	...
Lead-head ...	...	...	...	...	Cotton seed ... Free	...	13/	13/6 to 14/6	13/	13/6	...
Block Tin ...	£229/ 0	226	230/	3/	Kero.—C.O.R. ...	...	13/	13/6 to 14/6	13/	13/6	...
Tin Plates ...	F., 10%	112's 60/-	62/6	112's 52/6	Pennant ...	...	4/6	4/9	4/10	4/7 1/2	...
28 x 20 ...	56s	36/-	70/	42	Turpentine ...	...	3/	18/ per case	2/8	2/6	...
I.C. Coke ...	Free	25/6	26	29	Substitutes ...	...	3/6	2/6	8/	3/-	...
I.X. Coke ...	Free	25/6	26	29	Shellac ...	...	...	...	...	...	...
Pig Lead ...	Free	25/6	26	29	Whiting ...	...	...	...	...	...	...
Austn. ...	10%, 20%	40/	40	44/6	English ...	...	8/-	8/	9 10/	£10 ton lots	...
Sheet Lead ...	44 6/6	48	47 1/8	45/	Colonial ...	...	6/3	6/	5/8	6/8	...
Dampcourse ...	44 9/9	47	47 1/8	45/	Resin, G grade ...	Free	32/8	32/-	28/	24/6	...
2 lb. ...	44 9/9	47	47 1/8	45/	Carbide ... 80/ 150/	...	32/6	33	29 5/	29 7/6	...
3 lb. ...	44 9/9	47	47 1/8	45/	" I X L ...	...	34/-	33	33 10/	33	...
Lead Pipe—	45/	47 10/	47 5/	55/	Scandinavian ...	...	...	...	...	...	...
1 to 2 in. coils ...	47/	50	49 15/	55/	Japanese ...	...	...	...	...	...	...
Lengths to 5' ...	50/	51	49 10/	57/	Bluestone—	100/ 200/	...	...	...	...	...
Compo. 1/2" & up ...	70	78/	10d.	10d.	Macclesfield ...	...	40/	36/	37/6	42/	...
Copper—	1/7	1/8	1/8	1/8	Australian ...	36(1 cwt c/s)	...	...	...	...	...
Ingots ...	1/3	1/2 to 1/6	1/6	1/6	Japanese ...	...	...	...	...	...	...
Sheet ...	1/3	1/2 to 1/6	1/6	1/6	Stock Tar, 42 g. ... 25%, 35%	Free	...	1/5	60/-	...	...
Brass ...	1/3	1/2 to 1/6	1/6	1/6	Woolpacks ...	Free	4/1	6/	5/9	...	...
Sheet ...	1/3	1/2 to 1/6	1/6	1/6	42 x 1 1/2 ...	Free	4/1	4/7	4/9	4/8	...
	1/3	1/2 to 1/6	1/6	1/6	54 x 1 1/2 ...	Free	...	...	...	...	...
	1/3	1/2 to 1/6	1/6	1/6	Corn sacks ...	Free	...	...	...	...	...
	1/3	1/2 to 1/6	1/6	1/6	2 1/2 lbs. (Oats) ...	Free	9/6	11/6	11/6	10/6	...
	1/3	1/2 to 1/6	1/6	1/6	2 1/2 lbs. ...	Free	9/3	9/6	10/-	10/7	...
	1/3	1/2 to 1/6	1/6	1/6	Branbags ...	Free	9/3	9/6	10/-	10/7	...

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

Mount Eagle Tinsplate and Metal Works (William C. Stevens), manufacturers of tin and metal ware, Newtown, announce that the name of the firm has been changed to W. C. Stevens & Sons, Mount Eagle Sheet Metal Works.

Firms Registered

A. E. Sames, general ironmonger, 355 Bourke-street, Waterloo; proprietor: Albert E. Sames.

A. Gillon & Son, storekeepers, Catherine Hill Bay; proprietors: James E. Gillon and Violet Gillon.

Latimer Bros., engineers and ironmoulders, Philip-street, Lakemba; proprietors: Thomas H. Latimer and Alfred G. Latimer.

Arncliffe Engineering Works, general engineers and founders, 14 Hannam-street, Arncliffe; proprietors: John E. Pugh, William M. Weston and Francis H. Morris.

Benoak Gate and Fence Co., gate, wire pipe and iron work fencing manufacturers, Parramatta-road, Auburn; proprietors: John S. Le Fevre, Mrs. Vera E. Le Fevre, Miss Ruby A. Hume, Andrew A. Duncan, Bernhard I. Nottle, Arthur N. Thorpe, William C. Maynard, Ernest E. Bennett and Percy L. C. Noakes.

Company News

Barton Steel Products Ltd., have been registered with a capital of £2000 in £1 shares. Objects: To carry on the business of general mechanical and structural engineers, etc. Subscribers: John L. Woods, Doris Woods, Reg. H. Cansdell, F. H. Fearon, Roy C. Vidal, Harold V. Lees and Augustus W. O'Brien. Reg. office: Newcastle.

G. A. & L. Harrington Ltd., have been registered with a capital of £20,000 in £1 shares. Objects: To carry on the business of engineers, metal workers, etc. Subscribers: George A. Harrington, Leonard Harrington, Allan D. Rowell, Jesse E. Harrington, Marguerite A. Carver, Alexander R. Colvin and Dulcie M. Hammond. Reg. office: Sydney.

Australasian New Metals Ltd., have been registered with a capital of £10,000 in £1 shares. Objects: To carry on the business of manufacturing new utility metals, engineers, manufacturers, importers and dealers in metals of all kinds, etc. Subscribers: William H. Gordon, John T. Kenny, Frederick Hake, Mary Simpson, Frederick G. Briggs, Albert W. Cook and Lillie A. M. Gordon. Reg. office: Sydney.

Holder, Stroud Ltd., have been registered with a capital of £12,500 in £1 shares. Objects: To acquire the businesses of metal workers, spinners, polishers and manufacturers of metal goods carried on under the style or firm of F. A. Stroud, at 15 Brisbane-street, Sydney. Subscribers: Annie P. Holder, John H. Ehrlich, Arthur W. Wailes, Doris McDonagh, Lillian M. Scott, Austin T. Wilshire and Raymond Jarvie. Reg. office: Sydney.

New Zealand

Company News

G. A. Lang & Co. Ltd., have been registered with a capital of £2000 in £1 shares. Objects: To carry on the business of hardware merchants and general

incidental. Subscribers: T. E. H. Pearse, G. A. Lang and R. W. McGreath. Office: 22 Vivian-street, Wellington.

Thos. Waddell & Sons Ltd., have been registered with a capital of £6000 in £1 shares. Objects: To take over as a going concern the business of Thos. Waddell, & Sons, ironfounders, etc. Subscribers: Waddell, & Sons, ironfounders, etc. Subscribers: Office: 70 St. Asaph-street, Christchurch.

Jesse Stone Ltd., have been registered with a capital of £1500 in £1 shares. Objects: To carry on business as timber merchants, coal merchants, ironmongers, carriers, manufacturers of and dealers in hardware and all articles required for building operations. Subscribers: J. Stone and M. A. Stone. Office: Methven.

Eclipse Wire Products Ltd., have been registered with a capital of £5000 in £1 shares. Objects: To acquire and take over as a going concern the Eclipse Fence Co. Ltd., together with assets and liabilities. Subscribers: W. G. Black, A. M. Black and S. E. Black. Reg. office: 11 Grey-street, Palmerston North.

Bills Bros. Ltd., have been registered with a capital of £501 in £1 shares. Objects: To take over as a going concern the business of general storekeepers now carried on by A. L. Moore Ltd., and formerly in partnership under the style of "Bills & Moore," and general incidental. Subscribers: G. R. P. Bills, W. F. Bills and A. W. Bills. Office: Main-street, Otaki.

Marton Co-op. Stores Ltd., have been registered with a capital of £1500 in £1 shares. Objects: To carry on the business of general merchants, grocers, storekeepers, hardware merchants and general incidental. Subscribers: F. C. Wilson, S. Prebble, J. Manson, T. A. Tassell, W. F. Benemann, M. Tassell and F. E. Wilson. Reg. office: Broadway, Marton.

Queensland

S. M. Standen, hardware merchant, Cooktown, has been registered under the firms' Act; proprietors: Sarah M. Standen and Alfred Russell.

Cronin & Pedwell, general storekeepers, etc., Camooweal, announce that Charles L. Pedwell has retired from the firm. The continuing members are Thomas J. Cronin and George Isaacson.

Company News

Janson's Dairy Requisites Ltd., have been registered with a capital of £5000 in £1 shares. Objects: To carry on the business of importers, exporters, sellers and dealers in milking machines, separators, oil and other engines, dairy factory requisites or utensils and machinery and appliances of all kinds, etc. Subscribers: Oscar Janson, Florrie Janson, Reginald S. Ridgway, Dudley A. McNab, Samuel T. Little, Robert F. Cathie and John N. D. Orr. Reg. office: Makerston-street, off Roma-street, Railway Gates, Brisbane.

Colonial Gas Association Ltd., have been registered with a capital of £840,000. Objects: To acquire exclusive or other rights or concessions for lighting by gas, electricity or other means, cities, towns, districts, streets, places, etc., and for employing gas or other agents for heating, cooking and for working machinery, or for other purposes: to carry on the business of gas and electric light engineers, gas manufacturers, gas or electric light suppliers, etc. Subscribers: Henry L. Hammock, George H. Haywood, Edward Noyes, Samuel Spencer, William C. Parkinson, John Coates and William H. Evers. Reg. office: Mary-street, Sandgate.

South Australia

John Reeks, general storekeepers, Mount Pleasant, has been registered under the Firms' Act.; proprietor: John Reeks.

Company News

Carr Fastener Co. of Australia Ltd., have been registered with a capital of £3750 in 1/- shares. Objects: To carry on the business of a manufacturer of fasteners of all descriptions and for all purposes whatsoever. Subscribers: Charles Helge Nelson, William Kenneth Bakewell, Harold Bayard Piper, James Brown Johnston and Robert Joseph Horsell. Reg. office: Tapley's Hill-road, Queensbury.

Pope Sprinklers Ltd., have been registered with a capital of £15,000 in £1 shares. Objects: To take over as a going concern the business of manufacturers of irrigation sprinklers and fittings carried on by Sidney Barton Pope and Henry Pope at Robert Street, Croydon. Subscribers: Sidney Barton Pope, Henry Pope, Harley Clifford Pope, Lily Maria Pope and Joseph Henry Richards. Reg. office: Robert street, Croydon Park.

Gray & Donaldson Ltd., have been registered with a capital of £15,000 in £1 shares. Objects: To acquire and continue the business of engineers carried on by Stanley William Gray and Archibald Donaldson, at 241 Pirie-street, Adelaide and elsewhere under the style or firm name of Gray & Donaldson. Subscribers: Henry Stephen Dunks, Amy Millicent Gray, James Gray, Lilly Heatherbell Donaldson and Cecil Charles Crump. Reg. office: 241 Pirie-street, Adelaide.

Tasmania

Metalcraft, metal workers, Hobart, have been registered under the Firms' Act; proprietor: Colin Montrose Graham.

The Tasmanian Art Metal Co., metal plate manufacturers, Hobart, have been registered under the Firms' Act; proprietors: Wilfred Geo. Kemp and Claude Harold Wood.

Victoria

Firms Registered

Walton's Hardware Store, 237 Glenhuntly-road, Elsternwick; proprietor: Albert Walton.

Tanney's, ironmonger, 393 St. George's-road, Thornbury; proprietor: Carl Edward Tannenberg.

Model Hardware Store, hardware dealers, 264a Chapel-street, Prahran; proprietors: William Alfred Smith and Arthur Felix Bugg.

Company News

Steel Union Co. Pty. Ltd., announce that the name of the company has been changed to the Hudson Steel Co. Pty. Ltd.

Cohen's Hardware Pty. Ltd., have been registered with a capital of £15,000 in £1 shares. Subscribers: Erena Landy Gellatly, Walter Frederick Delves and Charles Ernest William Bryant.

Aluminium & Plate Co. Pty. Ltd., ironfounders, mechanical engineers, etc., have been registered with a capital of £15,000 in £1 shares. Subscribers: Daniel Gillies, Ernest Wilberforce Tilley, John William Handley and Edgar Handley.

Denman & Robertson Pty. Ltd., saw specialists and hardware merchants, are now located at 179 King-street, Melbourne, C.I. Mr. J. W. Robinson recently retired from the company and with Mr. E.

W. Robinson are now associated on the directorate Mr. E. R. Robinson and Mr. A. M. Thompson.

Barnett Electroplating & Manufacturing Works Pty. Ltd., have been registered with a capital of £7000 in £1 shares. Objects: To acquire and continue the business carried on by Louis Barnett & Ernest Alexander Webber. Subscribers: Louis Barnett and Ernest Alexander Webber. Reg. office: Gardiner-street, North Melbourne.

E. A. Austin Pty. Ltd., have been registered with a capital of £10,000 in £1 shares. Objects: To acquire and continue the business carried on by Edward Arthur Austin, ironfounder, mechanical and electrical engineer, etc. Subscribers: Edward Arthur Austin, Clyde Victor Austin, Harold Vincent Austin and Leslie Vernon Austin. Reg. office: 590 Little Bourke-street, Melbourne.

Western Australia

Mr. W. H. Harmer has commenced business as a hardware dealer at 334 Fitzgerald-street, Perth.

Ronaldson Bros. & Tippet Pty. Ltd., engineers and machinery manufacturers, Ballarat, Vic., have opened a branch business in Perth.

Agents and Agencies

Mr. James Henderson, Aberdeen House, 204 Clarence-street, Sydney, is now convalescing after an operation for appendicitis, and expects to be attending to his business in a few days.

Mr. I. Myers, of 143 Castlereagh-street, Sydney, has been appointed New South Wales representative for Fitchett Bros., Melbourne, manufacturers of linoleum polishes, metal polishes, etc.

Mr. W. G. South, founder and managing director of W. G. South & Cowan Ltd., 352 Kent-street, Sydney, resigned his connection with that firm on October 15 to assume control of his new business, South's Agencies, 60 York-street, Sydney. New shipments of the latest samples from Schutze Steffens & Co., of Hamburg, are arriving at an early date.

In our October issue we made a slight mistake in referring to Mr. Albert Adams, of Sydney, as the Australian agent for Wood's "Alumite" racing plates. Under an arrangement with the Birmingham exporters, Mr. Adams is appointed distributor in all the States of the Commonwealth except New South Wales, for which he remains joint distributor with Rosenfeld & Co. Pty. Ltd.

Mr. Stanley B. Gamble, Daking House, Rawson-place, Sydney, has been appointed agent in Australia for The Autoyre Co. of Oakville, Conn., U.S.A., manufacturers of "Maid-En-White" porcelain bathroom fixtures. The range embraces practically every accessory or requirement for the bathroom and it is claimed that each piece is original in design and the proportions correct from the point of utility as well as appearance. For instance, glass holders are rather more ample in depth than is shown by some makers so that the glass cannot topple out. The goods are made of genuine porcelain, fused under intense heat on to a special iron base. The finish being glass hard, affords easy cleaning, and the plates for attaching the articles to the wall are so made and finished that they set particularly close and flush. Another feature is that these goods are guaranteed not to crack or chip or become discoloured in use.

Publications Received

Machine Tools

In connection with the Engineering Exhibition at Olympia, London, during the present year, James Archdale & Co. Ltd., of Birmingham, issued an attractive booklet a copy of which has come into our hands. It is devoted to the drilling and milling machines and attachments manufactured by the firm, typical examples as placed in the works of various customers having been photographed for reproduction. The descriptions in English beneath the machine on one page are repeated in four Continental languages on the opposite pages.

In Australia these manufacturers are represented by Gibson, Battle & Co. Ltd., of Sydney, and Gibson Battle & Co. (Melbourne) Pty. Ltd., of Melbourne, while in New Zealand their agents are Richardson, McCabe & Co. Ltd., of Wellington.

Dyne's Products

In Booklet No. 1009 Dyne & Co. Ltd., of Brisbane, illustrate the various manufactures of wire turned out from their works at New Farm. These include "K" woven wire netting, gates of different size and style, steel fencing posts, droppers, fasteners for fences and bales, garden seats, wire guards, wire mats, wire screens and grille work, and "Dura-bond" reinforcement for brickwork. Some of their ornamental fences and gates for better class homes and public grounds are of registered design and very artistic.

As previously stated their Queensland factory is at New Farm with city showrooms in the basement of T. & G. Building, Queen-street, Brisbane. They have also a southern manufacturing branch Dyne's Ltd., corner of Belmont and Fountain-streets, Alexandria, Sydney.

Sheffield Cutlery

A booklet bearing this title has been issued by the Sheffield Cutlery Manufacturers' Association. It contains several short articles reprinted from "The Hardware Trade Journal" of different dates, and deals briefly with the manufacture of pocket and table knives, razors and scissors, as it has been and is to-day practised in Sheffield. The history of this important industry is also touched upon, from Chaucer ("a Sheffield thwytel bare he in his hose"), through the Earls of Shrewsbury and "the Worshipful Company of Cutlers in Hallamshire" (formed in 1624 to take over certain duties previously performed by the said earls) on to the present, with its stainless steel and large measure of machine production. It is admitted that inferior material and indifferent workmanship may be found in connection with cutlery of Sheffield manufacture, but the buyer who wants a reliable article for any cutting purpose is warned again and again to look for the name and trade mark of a reputable maker. These, speaking generally, guarantee the quality of the article, be it what it may.

Our copy of an informative publication is from Mr. Thomas C. Brown, of Sydney, the Commonwealth representative of George Butler & Co. Ltd.

Enamels and Enamelling

Bearing the title "Enamels: Their Manufacture and Application to Iron and Steel Ware," a book

of 234 pages, 9 x 6 has been issued by Charles Griffin & Co. Ltd., of 42 Drury-lane, London, W.C.2. The writer is Mr. Laurence R. Mernagh, B.Sc., etc., who explains that his work is addressed to those who have to do with vitreous enamelling only—not to stoving or cold processes or general decorative work. In other words it is enamelling which involves the use of high temperatures and that within the ferric field—cast iron and steel enamelling, both hollow ware and flat work.

Beginning with "The Steel Blank" the author deals in succession with "The General Properties of Enamels," "Raw Materials Used in Frit Making" (two chapters), "Tin Oxide and Its Substitutes," "The Calculation of Batch Formulae and Physical Properties of Enamels," "The Preparation of the Enamel," "The Ground Coat Enamel," "Cover Coats—White and Colour," "Furnaces and Fusing Equipment," "Cast Iron Enamelling" and "The Factory Lay-out." These twelve chapters with appended tables and a detailed index complete the letter press, but the volume contains a number of figures and graphs some of them full-page plates on art paper.

Well bound in cloth the book is excellently produced. The price is 18/- net.

American Machinery

We have been handed an advance copy of catalogue No. 61 issued by the F. E. Myers & Bros. Co., of Ashland, Ohio, U.S.A. It runs to hundreds of pages and describes an extensive list of pumps, water systems, hay tools and door hangers. The lists are so arranged that one discount applies to all, thus enabling buyers to quickly arrive at the nett cost.

Our attention is drawn to a self-oiling bulldozer power pump complete with motor and silent chain drive which is now a complete unit on one base thus occupying a minimum of space. This plant is patented in Australia. We also note that the former 600 series of pumps has given place to an improved series known as the 900. A feature of the latter is they have been so altered as to allow easy adjustment of the packing glands and are bored to allow attachment of adjustable motor base. Furthermore, these pumps are furnished with a deflector preventing water from entering the oil chamber.

Of special interest is an electrically controlled hydro pneumatic water system provided with self-oiling working head with air compressing cylinder mounted up complete with pressure tank, motor and other equipment. A feature of this system is that it is not necessary to pump the water into an elevated tank as sufficient air is compressed and delivers the water to the faucets in any part of the building and elsewhere through pipes placed for that purpose.

Several pages are devoted to valuable information such as directions for setting Myers pumps under different conditions; tables showing the barometric pressures at different altitudes, weight of water per foot of pipe of different sizes; amount of water discharged per stroke by a pump; horse power requirements for deep well working heads, etc.

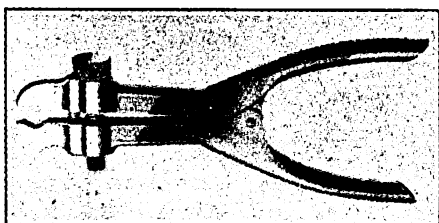
Accompanying the catalogue is a liberally illustrated booklet describing Myers "Cyclone" automobile washer, provided with a one hand controlled adjustable gun affording up to 300 lb. pressure at the nozzle from which can be obtained a fine, soft misty spray for washing and cleaning the body of a car, or a coarse driving stream for removing mud, grease and dirt from the chassis, under fenders, wheels, etc. Control to the required pressure is obtained by a slight turn of the gun handle and the same operation effects complete shut-off.

Richardson, Orr & Co. Ltd., of 250 Pitt-street, Sydney, with branches in other cities, are the direct factory representatives.

Machinery

"Lok-Jaw" Pliers

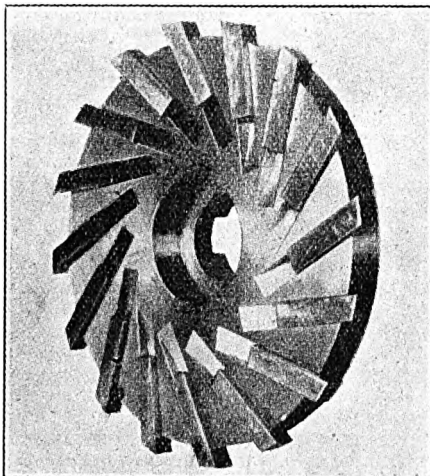
Compound leverage delivers a 1-ton grip at the jaws of the "Lok-Jaw" pliers made by the Lawson Manufacturing Co. of Cleveland, Ohio, U.S.A. The tool is designed to fit round, square or hexagon objects. The compound leverage action is obtained by squeezing together the pressed steel handles,



which have knurled grips. This pressure is transmitted to the jaws, greatly intensified, by forcing apart the shanks of the tool which is adjusted to the proper size by means of the screw on top of the jaw. The jaws of these pliers are of forged steel, hardened and tempered. A spring is used between the jaws to keep them open to the desired adjustment. The length of these pliers is 8 in. and the jaws open to $\frac{3}{4}$ in.

High Power Rotary Surfacers

Tindel & Phillips, of Philadelphia, Pa., U.S.A., have introduced a rotary surfer which requires



no fastenings on the cutting blades. The blades are held in place in the body by means of a drive fit. They can be driven outward, however, to take up wear. Square lathe tool design has been used for the blades.

These rotary cutters are built in sizes from 6 to 24 in. diam., the number of inserted blades running from 11 to 28. The face and side cuts for the smallest size are $\frac{17}{32}$ and $1 \frac{31}{32}$ in., respectively, and $\frac{1}{2}$ and $3 \frac{5}{16}$ in. for the largest size.

Making Square Holes in Boring Bars

To make a square hole in a boring-bar for the reception of square tool bits, first drill a hole the same diameter as the size bit to be used.

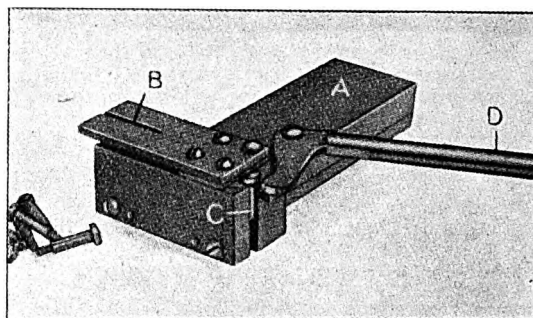
Next grind the end of a new tool bit to a slight taper, so that it will enter the drilled hole. The

bar should then be heated to a red heat and held on an anvil while an assistant drives the square tool bit through the hole. This operation raises the metal slightly at the edges of the hole, but this can be filed down smooth to conform with the radius of the bar.

When cool, the bar is drilled and tapped at the end to receive a set screw.

Slotting Fixture For Screws

One of the simplest screw-head slotting devices imaginable is shown in the accompanying illustration. In using this device, a slitting saw is mounted on the arbor of a milling machine, and the base or shank A of the fixture is clamped in the milling machine vyce in such a position that the slitting saw runs in the slot B. The height of the slitting machine table is then adjusted to give the required

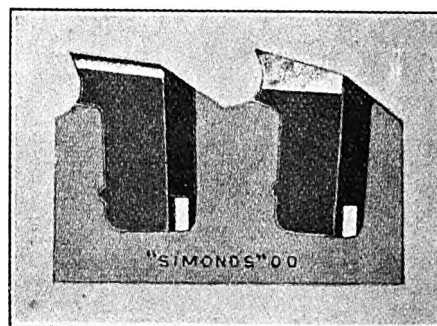


depth of cut. The screws to be slotted are inserted in the slot of the device at C and are pushed along by means of the lever D.

After the guiding slot in the fixture is once filled, a screw is slotted at each stroke of the feeding lever. The operator places a screw in the slot with his left hand after each stroke of the lever, which is operated continuously with the right hand. Machine screws of ordinary size can be slotted as fast as the operator can manipulate the handle, provided the milling saw is run at its maximum speed. The main part or shank end of the tool is made of cold-rolled steel which is case hardened on the surfaces subjected to wear.

Metal Cutting Saws

Tool steel is used for the inserted teeth of metal-cutting saws placed on the market by the Simonds



Saw & Steel Co. of Fitchburg, Mass., U.S.A. These saws are made in seven sizes of teeth, in both light and heavy-duty styles for cutting materials from

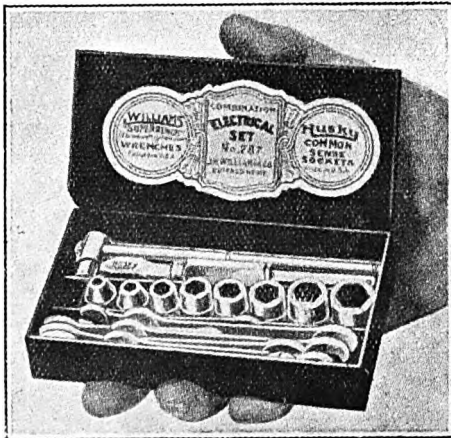
soft brass to high-speed steel. The kerfs vary from 3/16 to 1/2 in. A section of the No. 00 saw is shown in the illustration. It has wide tooth spacing for thick walls, square or rounds. The kerf cut is 3/16 in., and the saws are made in diameters of from 10 to 18 in.

As will be noted in the illustration, the teeth do not all have the same outline. The first tooth is rounded on the top, and is slightly higher than the next tooth. This first tooth engages the work and cuts a groove. The second tooth, which is square on the top, follows through and cleans out the corners of the cut, breaking the chips into three pieces. Fast cutting is achieved through the use of curved gullets which eliminate the danger of metal chips becoming welded to the teeth. The use of full high-speed steel teeth in this "Red Streak" saw makes possible high cutting speed, feed and depth of cut, and tests show that high production can be met. The plate of this saw is composed of alloy steel which will stand up under very difficult cuts.

Combination Wrench Set

Through a reciprocal sales arrangement between J. H. Williams & Co., Buffalo, N.Y., and the Husky Wrench Co., of Milwaukee, Wis., U.S.A., this combination wrench set has been placed on the market. The No. 287 set combines open-end and socket wrenches for servicing electrical equipment on automobiles and also for use on general electric work. It contains seven Williams' Midget "Super-wrenches" made of forged chrome-molybdenum steel in sizes of 7/32, 1/2, 5/16, 11/32, 3/4, 7/16 and 1/2 in.

Each wrench has two openings of the same size, but at different angles, which are 15 and 75 deg. from the centre line. These wrenches are light and



thin with narrow pointed jaws. They are chromium plated.

The eight Husky "Baby" sockets tapered for work in close quarters, and made in sizes from 5/32 to 1/2 in. inclusive, are included together with a 5-in. combination T and a 4 1/2 in. handy grip. The latter can be used as an extension.

This wrench set is packed in a convenient metal box, 5 1/2 x 2 1/2 x 1 in. in size. The total weight is 1 1/2 lb.

Heavy-Duty Electric Drill

Straight shank drill bits up to 1/2 in. can be accommodated in the three-jaw geared chuck of an electric drill made by the Black & Decker Manufacturing Co., Towson, Md., U.S.A. This machine is equipped with a powerful universal motor and the armature and spindle thrust are mounted on ball bearings. The tool has been designed for constant service on production work.

Pressure-Feed Airbrush

By the use of interchangeable adjustable spraying heads, a wide range of spraying operations can be covered by this "Lo-Hi" pressure-feed air-brush. The complete apparatus is manufactured by the Paasche Airbrush Co. of Chicago, Ill., U.S.A. These



"Multiple-heads" are made in five sizes, each in five different types, so that light stains to heavy plastic paints can be handled. The width of spray obtainable varies from a fine line to a smooth spray 24 in. in width, according to the head used. Air at pressures of from 6 to 125 lb. can be used.

The illustration shows a Lo-Hi air brush mounted on a cover which is interchangeable on a one pint or one quart pressure feed cup. A pressure gauge is included. A swiveling slanting inlet permits rapid flow of paint into the airbrush, and lumps or skins can be blown back and out. The two-finger steel trigger gives light control. Placing the air inlet at the back keeps the hose away from the work.

All working parts are of hardened steel, while the body is of brass. Standard threads are used on all connections.

Counting Machine

The Durant Manufacturing Co. of Milwaukee, Wis., U.S.A., have developed a counting machine known as the "Productimeter" Model 5DD1. The device is adapted to small drill presses and printing presses. Special bronze bushings, which insure long wear, are used. They require very little oil and can be replaced. The drive sleeve has been designed to prevent racing of the counter when operated at high speed. A drop-forged lever designed to be set at any angle operates the counter. It can be furnished with right- or left-hand drive and with a right- or left-hand reset having either rotary or reciprocating action.

Gasoline-Driven Unit

Grinding, drilling, filing and sanding may be done on isolated railroad jobs and in remote shops by means of a gasoline-driven unit introduced by the Stow Manufacturing Co., Inc., Binghamton, N.Y., U.S.A.

This portable unit has a capacity of 2.2 h.p., and has the speed adjustable from 1400 to 2200 r.p.m. The unit is supported on channel cross members carried on bars conveniently bent so that two men can carry the equipment. A No. 5 flexible shaft 10 ft. in length and having a metal case is provided. This shaft will carry an 8 x 1 in. wheel.

Leather and Brushware: Cordage and Jute Goods

Buyers' Notes for Retail Dealers

Sydney

Abrams Brooms & Brushes Ltd., of John-street, Glebe, with city offices in the Imperial Arcade, are manufacturers of almost every kind of brush for which use can be found from tooth brushes to the big fibre articles for cleaning yards and stables. The firm make a speciality of their own patented combined kitchen mop and brush, with wire having a loop at the end for hanging, and at the other end a fibre brush and a cotton mop. Bottle brushes are available with either hair or bristles, and a choice of seven materials is offered to buyers of Dandy brushes. Made specially for use in stores and public halls hair brooms are on hand in extra large sizes, although smaller sizes can be supplied if desired. Painters' brushes are made in a wide range of sizes and patterns. Stove brushes are in four sizes, both round and oval shapes being available. Hand and machine filled banister brushes have black and red handles. A feature is made of a single wing scrubbing brush, and in addition single and double wing styles are made. Four varieties of bottle brushes are offered, made with hair or bristles.

R. J. Ball Ltd., of 418 Kent-street, Sydney, and elsewhere, are manufacturers and wholesale suppliers only of "Service" tennis nets. These are made by hand from specially selected cord which is steam tarred by a process which water-proofs and strengthens the fibre. A regulated double top gives additional strength where heavy play is centred.

The firm also manufacture cricket, hockey, "soccer," lacrosse, badminton, golf and basket ball nets.

Edward Bentley & Sons Ltd., of Fitzroy-street, Marrickville, manufacture every variety of cordage, from the finest of twine to heavy ropes. Large stocks of binder twine are being built up to meet the demands of the coming harvest season, and for counter use twine made of Italian or Russian hemp is available in balls or on reels. For the use of butchers a special make of twine is made in three qualities, and put up in 14 and 16 oz. balls. Twine for general use is supplied in three grades. Roping and seaming twines are made of Italian hemp, Calcutta jute or cotton. Bagging hemp is sold in hanks, and teasel hemp is available for fibrous plaster. Skipping ropes, supplied with handles, are made of cotton, jute and flax, and other productions include chemists' twine, broom twine in colours and hanks of sewing twine unstained.

Lewis Berger & Sons (Australia) Ltd., paint manufacturers, of Rhodes, are makers also of varnish and paint brushes for use with their various products. Brushes are supplied a dozen to the box, the sizes varying from 1 to 4 in. Brushes of guaranteed pure bristles come six in a box, the sizes being 3½, 4 and 4½ in. Russian grey bristle brushes are of superior quality, brass bound with varnished hardware handles. The "Handy" brush is sold in 1 in. and 1½ in. sizes, and the "Mercury" brand comes in dozen and half-dozen lots. In all cases display cards are furnished by the makers.

Briscoe & Co. Ltd., of 383 Kent-street, Sydney, have a large array of brushes of all kinds, including a good seller in the "Simplex" whitewash brush, the bristles of which are doubled over so that they

cannot pull out. Hair brushes are available in both the plain and winged make and dandy brushes are still being shown.

Fibre goods are stocked in a wide variety of shapes and sizes from children's luncheon bags to roomy suit cases. "Fordite" and "Globite" cases are available in a variety of sizes and patterns. Water bags are well stocked. The "Hercules" make is carried in six sizes for the verandah and motor car.

Twines and ropes from the Belfast Rope Works are offered for household and industrial requirements, while hessian and duck can be supplied in any quantity.

John Danks & Son Pty. Ltd., of 234-40 Pitt-street, Sydney, present a remarkably wide range of brushware, from tiny articles for the use of artists to big yard brooms. The "Bondza" paint brushes still remain in public favour, and bevelled wall brushes, flat varnish brushes and "Kelso" brushes can be had in different sizes and qualities.

A seasonal line is the "Emu" verandah blind, sold complete with all fittings, all stock sizes being on hand, while extra long lengths can be made to order. A strong iron stay is supplied as part of the outfit, if required, to prevent flapping about in strong winds.

Other lines include endless cord, blind cord and sash cord, together with ropes and twines for all purposes. Suit cases in all sizes, are also available.

Farleigh, Nettheim & Co., of 80 Clarence-street, Sydney, stock cordage of all sizes and for all purposes. They are now making verandah blinds for which a ready sale is found at this time of the year. Saddlery has long been a speciality, and full stocks of riding saddles, as well as the accompanying parts are on hand. Bridles, stirrup leathers, girths and all other requirements of the horseman can be supplied, while harness for the small spider or the heavy dray is made on the premises. The making of ladies' hand bags is an important part of the firm's activities, and some very fine examples of good quality products are on view. For men tobacco pouches and wallets are on hand in a number of qualities and fashions. A very popular line is a leather belt with a patent buckle, and leather braces are made in three qualities.

Chamois leather, in both English and Australian make, can be supplied in sizes ranging from 1½ sq. ft. upward. Suit and attache cases made of fibre are on hand in all sizes, a special feature being the strong English locks with which they are fitted. Lunch cases are sent out in nests of five, and school cases are made to suit rough usage, being extra deep with strong steel frames. Solid leather cases of good quality are equipped with E.P. fittings, and are neat and attractive in appearance. The firm runs a special line in presentation leather cases fitted with toilet requisites for men and women.

S. Forsythe & Co. Ltd., of 339 Kent-street, Sydney, are now turning out rope and cordage under the "Kookaburra" as well as the "Forsythe" brand. Harvest twines are a speciality with them, different grades being produced. Fibrous plaster requisites are also made and towing ropes in out sizes are available in any desired quantity. Tarred thatching yarn, lead lines for measuring sea depths and taking the speed of vessels at sea, and driving and

transmission ropes of manila are among the other lines manufactured by the firm.

W. S. Friend & Co., of 113 York-street, Sydney, have a good seller in an oil polishing mop with a long fringe. A feature is that new fringes can be supplied when the old ones are worn out, thus saving the expense of buying a new mop. A somewhat similar principle is applied to water mops with detachable heads which can be renewed at a small cost. Exceptional value is shown in a new line with the firm, sterilised prophylactic tooth brushes in various grades.

Locally made ropes and cordage, "Emu" and "Renown" brands, are well stocked by the firm. Water bags are strongly in evidence this year, a useful line being a combined water bag and butter cooler.

An exceptionally large display is made of suit cases and luncheon bags in all sizes.

Grimley Ltd., of "Monarch House," Broadway, Glebe, carry a wide assortment of suit cases, a special line being made of Swedish fibre, and others of vulcanised fibre. A number of different patterns are on offer, the sizes ranging from 12 in. to 18 in. To help sales some of the firm's products are put up on attractive looking cards, notably men's belts, dog collars, watch pouches, tobacco pouches and similar small articles.

The household brushware shown includes stove and flue brushes, as well as those for banisters and ceilings. A feature is made of a special brush for grooming race horses, and dandy brushes, locally made and imported, are well to the fore.

All the well-known brands of razor stropps are available including the "Cooee," "Commonwealth," "Tourist" and "Horsetail."

P. & A. Herford, of 53 Farramatta-road, Sydney, make the well known "Trip" brand suit cases and bags. Worthy of note are the solid leather cases, with high class fittings and patent locks. The vulcanised suit cases are guaranteed to stand up to hard wear. Very attractive is a case with a nickel frame for the body and wood frame in the valance-surrounded lid, the corners being re-inforced with leather. The hinges are of metal and two nickel lever locks are added. Another of the firm's specialities is a suit case with a hide covered frame and an invisible frame in the lid. Further strength is given by the addition of two strong buckle straps. The turnover edges are strongly stitched and rivetted, and the corners are re-inforced with extra leather packing. Additional strength is given to the lining and the fittings include inside straps, best nickel locks and a stout gun case handle.

S. Hoffnung & Co. Ltd., of 163 Pitt-street, Sydney, offer paint and varnish brushes bearing their own brands, including the "Protector," Daisy," "Fortress" and "Signal." Special attention is directed to the "Red Fox" hair brush, the chief feature being the real "Buffalo" handle and white bristles. Several well-known brands of mops are in stock, prominence being given to the "O'Cedar" and "J.B.M." brands, and an extra large range of toilet brushes are stocked this season, the English made "Briton" brushes being specially featured. A choice of wood, metal and xylonite handles is offered buyers in the toilet brush section. Travelling bags are on hand in a wide variety of sizes and qualities, solid leather and fibre being stocked, and cordage suitable for shop use, as well as thicker makes can also be obtained.

S. C. Johnston & Son, of Queen-street, Rosebery, make brushware for the requirements of tradesmen and householders. A 1 lb. brush for painters is supplied in lots of 15 and 20. The handles are of well seasoned timber, and the bristles of extra fine quality, are firmly embedded in vulcanised rubber. A feature is made of a floor polishing brush, for which several advantages are claimed, the first be-

ing that the contrivance is operated like a carpet sweeper and has a dust mop under the bristles.

Mr. A. Jones, of 178 Clarence-street, Sydney, produces canvas goods of all kinds, especially sails for large and small boats, verandah blinds, folding stretchers, water bags and canvas seats. The making of tents for motorists also engages attention, three designs being on hand. The covers are made of the best Birkmyre cloth and the ends and sides of duck. These tents are supplied complete, with poles, pegs and bags.

Joyce Bros. Ltd., of Holt and Cooper-streets, Sydney, offer a special kind of twine for broom makers and twine for all trades and industries is made of cotton and jute. They also make a special line of calico bags, chaff and corn bags, cheese cloths and bacon wrappers.

Keep, Macpherson Ltd., of 252 George-street, Sydney, are showing a patent wall duster, the chief feature being a screw, enabling the brush to be set at any angle by a simple movement, in order to clean cracks and crevices. "Rex" clothes and hair brushes have hollow backs and finger grooves in the side and are packed in cartons. "Swan" brand nail brushes have black bristles on a white handle. "Victor" nail and hair brushes are among the better quality lines. The firm's own "Dingo" brand appears on a wide range of goods, including leather and fibre travelling bags, brooms and English made tooth brushes. Cordage is available in various sizes and qualities, while "Comeback" jute sewing twine is a popular line, and binder twine is stocked in three grades.

W. Kopsen & Co. Ltd., of 70 Clarence-street, Sydney, specialise in supplying the requirements of ship owners, and as agents for Richard Hayward & Co. Ltd., carry sail cloth and canvas of English manufacture. Water bags are regularly stocked.

In brooms and brushes a special feature is made of short deck scrubbing brushes, winged and plain, with diamond backs. Wire drawn tuft deck brooms are supplied in 12, 13, 14 and 15 in. sizes, and round oil brushes are available in a number of sizes, while a wide variety of paint and varnish brushes can be supplied from stock. The "Rubberville" vulcanised paint and varnish brushes retain the bristles indefinitely under ordinary wear. Foundry brushes are made with and without handles and tar brushes are available with long and short handles.

Canvas water and varnish brushes can be supplied from stock. The "Rubberville" vulcanised paint and varnish brushes retain the bristles indefinitely under ordinary wear. Foundry brushes are made with and without handles and tar brushes are available with long and short handles.

Leggings can be had with the spring front or with five buckles and toe cap over the instep.

Houseline and hambroline can be supplied in coils, and for roping and sails boltrope is made in sizes from one inch upwards. European rope can also be obtained for the same purpose. All kinds of cords are available and four yarn lanyard rope and ratline for rigging is stocked in large quantities.

Manok & Renkert Ltd., of 432-34 Kent-street, Sydney, are makers of leather travelling bags. Solid leather suit cases range in price from £1/10/- upwards, and welted kit bags from 1/- an inch. Ladies' blouse cases, attache cases, writing cases and folios in all sizes, leather, canvas and cane trunks, cash and bullion bags, music cases, tennis cases and golf bags, bookmakers' bags, soiled linen bags and holdalls, and commercial travellers' sample bags are among the lines manufactured. The firm specialise in men's and women's fitted cases, ranging from the small fold-up cases to large suit cases, as well as auto luncheon cases fitted with cutlery, thermos flasks and other articles required by picnickers. Fitted and luncheon cases are in ample and

varied supply together with combination writing and dressing cases. The fittings of the latter include brushes and all other requisites for the toilet, as well as pockets for ink, pens and pencils and paper. Fitted dressing cases are also offered in solid polished hide. Some very fine examples of ladies' fitted cases are on view in solid hide and real morocco. Men's fitted cases are also available, and if desired bags and cases are made up to customers' own order.

W. J. Moxham & Co., of 35-41 Castlereagh-street, Redfern, specialise in the manufacture of millet brooms, a long list being catalogued. At the head of the list is the "Pearl of all Brooms," made with an extra strong head and a highly polished handle. Another good quality broom has a black handle and an extra good quality head. The making of carpet brooms is an important part of the firm's activities, "Triumph" No. 1 having a white handle with seven stripes. "Our Domestic" and "Special Gold Luck" are the names given to other carpet brooms and carpet sweepers are also made in various styles.

Noyes Bros (Sydney) Ltd., of 115 Clarence-street, Sydney, carry stocks of twine and rope in various sizes and qualities. These are made from cotton, hemp and jute and can be supplied for all trades.

Palmer & Ryall Ltd., of 67 Fitzroy-street, Sydney, manufacture every description of brushware. They specialise in the making of "Lifeguard" shaving brushes, made of sterilised bristles in an aluminium ferrule on a wooden base, each brush being packed in a separate carton. Another brush is made specially for hair dressers. Recently introduced another sterilised brush has serrated stiff bristles and is sold in cartons. An old favourite is the "Relian" sold in three grades of quality.

Brooms are in wide variety, the "Scant," being recommended because of its durability. Guarantees go with the "Rajah" and "Eclipse" hair brooms, and dusters, varnish brushes, whisks, and paint brushes are also made.

O. Pendergast & Co., of 410 Kent-street, Sydney, have placed in stock large quantities of the Australian made "Emu" brand ropes and twines. Clothes lines, sewing and wrapping twine made of sisal hemp are available, and binder twines are in three qualities. Cords for verandah blinds can be supplied in lengths of 45 and 60 ft., the thickness being $\frac{1}{2}$ and $\frac{3}{4}$ in. and tarred rope for marine use is always on hand.

J. Scott Ltd., of Robey-street, Mascot, with city offices at 163 Clarence-street, are manufacturers of all classes of manila, New Zealand flax, sisal and coir ropes, cordage and binder twine. They also supply teased sisal fibre for the manufacture of fibrous plaster sheets. All their products bear the registered trade mark "Renown." The binder or harvesting twines are manufactured in several grades. Sisal twines in one and two ply packed in reels are made for packing or wrapping purposes, as are the lashings in one, two and three ply. Sisal plough lines in sizes 1 in. and $1\frac{1}{2}$ in. by four strands are sold in coils. Tarred gaskets are also made up in coils from New Zealand hemp. Hide and leather lashings are manufactured in various sizes and packed in convenient sized coils. Tarred cordage is made in good quality hemp to meet all shipping requirements. Deep sea lines from the best white hemp and fine twine lines are also available.

Smith, Copeland & Co. Ltd., of 33-37 Regent-street, Sydney, supply well finished kit bags made of solid leather, lined with canvas and provided with leather handles as well as side locks and clasps.

Two sizes are available, 18 and 20 in. Attractive looking are the grained cow hide suit cases, sold in two qualities, and plain leather suit cases are also on hand with extra strong nickel fittings. Other suit cases are made of the best heavy Swedish fibre, available in sizes ranging from 18 to 28 in. Gardeners' gloves are made duck and leather, and a special line for motorists is also on hand. A light but serviceable glove is supplied for house maids. No fewer than six qualities of tool bags, and cash bags of calico or duck can be had in four sizes.

The Standard Brush Co., of 14-16 Botany-road, Waterloo, are makers of a variety of brooms, as well as brushes for domestic and industrial use. More than twelve brands have been registered for brushes used in different trades and industries. Well known among painters is a flat enamel brush with pure bristles and made in seven sizes, from 1 to 4 in., the bristles being extra thick. The "Bosca" is the name under which this brush has been registered, and the "Tiger" and "Monarch" are of different quality, the bristles being of medium thickness. Five names have been used in registering the brand of flat wall brushes, and brass bound weather board brushes bear seven names, to denote the different qualities.

The Standard Leather Goods Factory Ltd., of 39-41 Dixon-street, Sydney, make such widely different articles as fibre suit cases, ladies hand bags, belts and solid leather bags. Some of the newer models in ladies' hand bags are most attractive and should prove good sellers.

Mr. Samuel Taylor, of 44 Foster-street, Sydney, makes a wide variety of brooms and brushes. In millet brooms alone he produces fifteen varieties. The "S.T." mop calls for mention, and a polishing mop bearing the same brand is also of good quality. Aptly named is the "Taylor's Reversible" hair broom, the stock of which is fitted with a malleable steel attachment permitting the reversal of the broom, thus ensuring longer life and uniform wear. The "Union" cream can brush is made in three sizes, and the sharp shape permits of the quick and easy cleaning of the cans. A torpedo shaped broom is recommended for sweeping corners and awkward places. The double pattern banister brushes have a brush of 7 and $7\frac{1}{2}$ in. in length as well as a full millet brush on the back. Among the many kinds of brooms is one for theatre use, the centre of the stock being raised, and a new brush is specially designed for cleaning water closets, the head being curved so as to reach all parts of the pan. In order to prevent the spreading and spoiling of the bristle, a glue brush, available in six sizes, is bound with copper wire.

S. Walder Ltd., of 340 Pitt-street, Sydney, are showing a collapsible table and fibre suit case, combined. Made for the use of motorists and campers, the table can be converted into a hand bag by one or two movements, and is provided with grip and lockers. If desired four folding chairs are supplied with the table. The "Kompak" stretcher makes a fitting accompaniment. Among other lines for the traveller are gladstone bags and attache cases as well as suit cases in solid leather or fibre. Leather kit bags with nickel fittings are also on hand. Plumbers' tool bags of solid leather are hand sewn and riveted, with buckle straps. Carpenters' tool bags are extra strongly made of webbing and are sold in five sizes, while double brown English made bags are also on hand. Ore bags of heavy canvas are 23 x 11 in.

Williamson, Croft & Co., of 272 Castlereagh-street, Sydney, carry big stocks of Australian made brushes for painters and other tradesmen. Flat bevelled lining fitches, stencil brushes with black

bristles, flat and round jamb dusters, and black bevelled copper bound brushes of special quality are on hand. The name "Perfection" has been given to a new varnish brush made in various sizes and specially adapted for painting motor cars. Paper hangers' brushes and badger softeners are also in stock. "Acme" and "Mascot" are the names given to weatherboard brushes, and oval copper bound paper brushes are sold in five qualities.

Mr. A. Wyld, of 127 Eveleigh-street, Redfern, is the maker of the "Wyld Boar's Head" brand of brushware, covering a wide variety of lines. Three sizes and kinds of banister brushes are made, and a special carpet broom has won a good reputation. Lawn brooms made of bassine are on hand in two sizes and hair brooms for use in public halls and large buildings are made in seven sizes, the largest being 36 in. Three kinds of ceiling brushes are made, one of these being so shaped as to permit the cleaning of cracks and crevices. Thistle brooms are on hand in six sizes and winged brooms of hair and bristle look well in their enamel finish.

John Zevenboom & Co., of Kent and Market-streets, Sydney, devote special attention to paint and varnish brushes of which nine different kinds are made. The "Wombat" is the chief of these, and is available in six sizes. Bristle kalsomine brushes as well as white wash brushes are among the products of the factory, and hat dye brushes are in two sizes and qualities. A brush is made specially for cleaning motor car engines, and can be had in six sizes, from 6 to 12 in.

Melbourne

Briscoe & Co., Ltd., of 391 Little Collins Street, Melbourne, hold a complete stock of household and other brushware, both of British and Australian make. Toilet brushes are regularly carried also a good range of tooth and hair brushes being displayed at the moment. In addition to English lines excellent tooth brushes are now available of Australian production; these are not only of good materials, but are well finished in every way. In the toilet section may be mentioned also dental plate brushes as well as cloth and hat patterns of fine quality. Hair brushes include both military types and ladies'. Besides a big range of general painters' brushware, from the small flat to the large kalsomine patterns, there is every description of domestic brushes. In this category come hair and bannister brooms, pot and sink scrubs, and handy lines, carded if required, suitable for home jobs. An "indestructible" white-wash brush, strongly bound in metal, is recommended as a reliable and cheap line for household use.

Retailers are reminded of the demand at this period for verandah blind lines and venetian cord. These are stocked in all grades by the firm. Other cordage includes sash cords of jute and cotton, road lines, bricklayers' and chalk lines of all kinds. For farming districts a good supply of plough reins is available, either in braided cotton or manila.

Leather goods comprise saddle and hame straps, dog collars and leashes, together with straps of all kinds. For the holiday period buyers should bear in mind such seasonable lines as leather and fibre suit cases, brief and kit bags and attache cases. A type of suit case which has proved most popular is the "Holsmor," a new but quite satisfactory design which permits considerable expansion of size when necessary. The make is sturdy, and it is very simple in action.

John Danks & Son Pty. Ltd., of 391-403 Bourke Street, Melbourne, carry practically all cordage lines which are of interest to the hardware store.

Verandah blind lines are available in useful hanks of 45 and 60 ft. either jute or braided cotton.

While the jute comes at a lower price, cotton line is usually preferred on account of its superior wearing quality and finer appearance. The sizes are $\frac{1}{2}$ and $\frac{3}{4}$ in. Venetian cord is in hanks of a half gross yards—the material used being cotton or flax. Sash line is usually packed in 36 ft. hanks. Here again both jute and cotton are stocked. Manila rope of all sizes is kept in first and second grades. All the above are Australian made, the quality being quite reliable.

In handling cordage for retail sale the newer method of carrying the popular sorts on a special stand has greatly simplified the work of the salesman. The stand is good in appearance, and various kinds of rope or line are run off as required. This obviates the untidy tangle of cordage which was so difficult to prevent in selling from the coil.

Sewing twine should also be mentioned. The five-ply twine is a daily necessity, and is obtained in $\frac{1}{2}$ lb. hanks.

In the painters' brushware section the retailer will find here all useful paint and varnish brushes, from the smallest to the biggest. A number of good lines are available at a moderate price. Those in constant demand are the flat enamel or varnish patterns, as well as those for whitewash and kalsomine.

J. S. Kidd & Co. Pty. Ltd., of 410-12 Lonsdale-street, Melbourne, carry cordage of every description, including ropes, twines and sash cord. In leather goods, all classes of straps are stocked, as well as saddle and rug straps, dog collars and leashes.

Brushware covers a large variety in both household and artisans' requirements. Besides hair and millet brooms in all grades, the regular lines of scrubs and pot and nail brushes may be ordered. In the good quality paint brushes, sash tools, and those for tradesmen generally, a range is kept of superior make, the bristles and setting being of the best. It is in the more common or hand types for home use, however, that a large turnover is possible. Here will be found an extensive choice of varnish, paint, enamel, and whitewash patterns at low prices, with a margin for the retailer which makes them worth while to handle.

James Miller & Co. Pty. Ltd., of 359 Little Collins-street, Melbourne, manufacturers of every kind of rope and cordage, have been established for many years with works at Yarraville and Brunswick.

An important section of the plant is devoted to the production of binder and bagging twines, both of which are now in daily demand during the harvesting operations. Special points emphasised in regard to "Anchor" binder twine are smoothness and evenness of texture, and a maximum running length to the pound without any sacrifice of strength and uniformity. Much experience has been required to bring the manufacture of this twine to its present grade. "Anchor" brand bagging twines are now familiar to the farming community throughout the Commonwealth. The "A" grade is guaranteed of ample strength, and also to contain the greatest possible proportion of strands to the hank. The material used in this grade is the best quality dressed Indian hemp.

Rope and cordage of all kinds, roping and seaming, shop and other kinds of twine mats, and other fibre goods, are regularly produced by the firm.

Thos. Mitchell & Co. Pty. Ltd., of 360 Lonsdale-street, Melbourne, are manufacturers of brushes both for domestic purposes and special trades. The list of standard lines is very large, and covers a wide range of uses. Brooms are made in a number of grades to suit every class of trade, the better types being of a high standard. These are usually packed singly in cartons, neatly labelled, a method

which has proved popular with the public as well as with the retailer.

The newest "Victor" hair brooms are exceptionally well produced, and, following the modern idea, are supplied in "Zapon" finish of various colours, matching the prevailing shade of the household furnishings. One advantage is that the enamel-like finish is much brighter looking, and maintains a clean appearance. It would be impossible to enumerate the enormous range of household brushware constantly stocked by the manufacturers. There seems to be a particular type for every individual purpose.

American pattern brooms form another important section of the trade. All the usual grades are produced in the firm's factory, the millet used being practically all grown in the State of Victoria. The good qualities are made of picked materials, and care is taken to turn out an attractively finished article.

Another large section of the plant is engaged in the production of paint and varnish brushes, for household and trade uses. The retailer will find some handy and cheap lines of enamel and paint brushes which it will pay to handle. One of the best ideas is the carded set of a dozen different sizes, enabling the customer to make a quick selection of his needs. By the use of modern machinery an excellent brush is now obtainable at a low cost. This applies also to kalsomine or whitewash patterns.

Mr. I. Sher, of Burns' Lane, Melbourne, manufacturing every kind of leather and composition bags and cases, maintains a good stock of all lines for retailers supply. At this period most stores find it profitable to carry a selected range of suit cases and similar goods in anticipation of the coming holidays. In addition to the "tripper" himself a bag makes a servicable gift for others.

While all classes of cases are here obtainable, this maker has recently produced a new registered design for women's use which has become remarkably popular. This is known as the "Ladylite" case, which departs from the conventional design altogether. The shape is round except for a flat portion on which to rest the case when required. It is made in all colours, the edges being neatly bound to give it what is usually known as a "smart appearance". A patterned lining inside completes the job, a pocket being provided for holding odds and ends. A set of three, nested, is obtainable, the retail price being reasonable and allowing a good margin.

This is a useful line which should pay a hardware store to handle. The circular shape makes it less cumbersome to use than the square types, while it is capable of carrying much more than its appearance would suggest.

John Zevenboom & Co., of 333-35 Elizabeth-street, Melbourne, who were amongst the earliest Australian makers of brushware, do business throughout the Commonwealth.

With a modern plant for the production of every description of brushes, including those of steel wire, the firm is able to supply an entire range. In addition to the artisan's tools, brushes for painters, sash tools, varnish and kalsomine brushes of high quality, those for home users are carried in all designs and for all purposes. A large business is done in bass and fibre patterns, including lawn and garden path brooms, of the hard-wearing variety.

Such lines as wax floor polishers, squeegees, and others for special purposes, are capable of much larger turnover if retailers displayed them. A number of useful types come under this heading. Cornice and wall brooms, turk's heads, and picture or bell dusters are amongst those which would compensate for the trouble of handling.

This firm make a feature of trade brushes. A considerable business is done in special classes used by factories and mills, and, where a definite article is not in constant production, it may be supplied to order. Mention might also be made of the wire brushes used by iron foundries, brazers and engineers, all of which are stocked. Steel wire tube brushes are made in a range of sizes from 1 to 4 in., and other patterns, in different sizes, may be had in either soft or hard wire, or a combination of hard and soft as required.

Other brushware supplied by the firm are nail, hair, tooth, and hat brushes.

Mass Production.

(From an Exchange.)

Mass production is the invention of the alert and pushful Americans, and mass production has been held to be the only means of reducing costs and reducing selling prices, thus stimulating trade. Americans are now becoming alarmed, fearing that there is something wrong with the system. The New York correspondent of the "London Journal" says that in Wall-street, in Washington, in every financial and industrial centre throughout the country, it is beginning to be realised that something little understood has been going on in recent years in our industrial life which is now having a widespread effect. We have gone ahead on the theory that operating costs could be greatly reduced by mass production, which at the same time would furnish full employment for labour at high wages, thus creating the buying power necessary to dispose of the products. This theory was held at the close of 1927, and many recognised financial and industrial leaders predicted confidently that 1928 would see even greater activity and prosperity in America than any heretofore witnessed. When only two months of the year had passed these prophets of prosperity realised that something unknown and unexpected happened at the close of 1927. Industrial employment for December, 1927, according to the United States Labour Bureau, was the smallest for any December since 1922, and the smallest for any month since August, 1924. Until very recently, we are assured, it was generally believed in America that there was no over-production and no unemployment. It is shown that in seventeen representative industries, while the percentage of output in all the industries except two had increased, the percentage change in employment shows a decrease in all the industries except one. The production of electricity was an outstanding feature, and electricity has been taking the place of man power. The population of the United States has increased by 20,000,000 in ten years, and to supply the needs of this larger population on the basis of 1919 production would now take 140 men for every 100 then employed, but instead, through use of machinery, the nation's needs are being met with 7 per cent. fewer workers. Over-production and unemployment are real factors in the economic conditions of the United States.

What They Said

"It's an up-and-down life," said the piston, as he gently slapped the cylinder.

"I'm steady enough," quoth the cylinder.

"We take it in turns," sang the big-ends.

"Not so much gas," said the valves.

"A little balance," hummed the fly-wheel.

"Quietly, quietly," whispered the silencer.

"But it all ends in smoke," burred the exhaust pipe.

Electrical Notes from New Zealand

(Specially Contributed)

Good progress is being made with the foundations for the new generating machinery at the Nelson power house. The additional units are expected to take care of the power demand for some years to come.

Central Power Board (Hamilton) reports the total connections to date as follows:—Lighting, 2876; heating, 1084; milking motors, 795; other motors, 160; water pumps, 246; water heaters, 747; ranges, 153; total, 3143.

Poverty Bay Power Board has decided to charge domestic cooking rates for refrigerators in private houses, it being considered that consumers who could afford such expensive equipment could afford to pay that rate for current.

Wanganui-Rangitikei Power Board reports that arrangements have been made for extensions in the Waverley district, also at Utiku and Marton, for which guarantees have been given on a basis of 24 per cent. of capital cost.

During August the trading department of the Waitemata Power Board sold equipment to the value of £731, of 25 ranges installed the board supplied 22. During the last twelve months the number of ranges in service has increased from 246 to 503.

Wellington City Council Electricity Department has adopted a reduced scale of charges for electricity supply, to come into operation on November. The estimated loss of revenue is £15,000, but this it is hoped will be largely offset by the increased demand for current.

The recent fire in the transformer house at the Horahora hydro-station and the resulting interruption of power supply threw a heavy increase in load on the Auckland Power Board's steam station at King's Wharf which caused a serious coal shortage for several days.

Contracts for the supply of the generating machinery and equipment for the Golden Bay Power Board's new power station have been let and the plant is due to arrive in December of this year. Power will be available by May, 1929, if the shipment of iron bark poles from Australia is not delayed.

Thames Valley Power Board reports that the actual expenditure at March 31, 1928, was £650,976; total net sales, £107,534; total cost of power purchased and generated, £33,390. The total number of consumers connected up was now 6735, which included the Thames and Te Aroha boroughs. There were now in operation 1498 water heaters, 247 ranges, and 2020 motors on farms, of which 1710 are 2 h.p. milking motors.

Central Hawkes Bay Power Board having completed an investigation into the uses to which the current sold during the last financial year was put, finds that the amount of electricity used for water heating reaches a startling figure, and it is thought probable that before very long this class of service will constitute the peak load. It is considered that some sort of temperature control as a means of conserving current, would be in the interests of the board.

Waitaki Power Board reported very satisfactory progress at the September meeting. Reticulation of the Hakataramea district has been completed and

supply commenced with cooking demonstration at which substantial sales of apparatus were made. Electric ranges are being installed in increasing numbers and big developments are anticipated in the near future. It may be noted that during the last 2½ years, the board has sold about £15,000 worth of apparatus.

A settlement has been reached between the North Canterbury Power Board and Kaiāpoi Borough Council regarding the price to be paid by the boroughs for electric power. After delay and discussion a proposal was adopted that the rate be for the first 200 kva. £10 and thereafter £8, plus £100 per annum from each borough, the board to agree not to interfere with existing consumers in the respective boroughs and to give supply at 3300 volts at the borough boundaries, the term of the agreement to be ten years.

The annual report of the Government Chief Electrical Engineer (Mr. F. T. M. Kissel) published at the end of September, gives a detailed survey of the new construction work and operation of the Government's hydro-electric stations and transmission lines for the last financial year, ended March 31, 1928. This represents the thirteenth year of operation of the Lake Coleridge scheme and the results shown are very satisfactory. The capital outlay was £1,561,081 (£22,512 over previous year). Total revenue £171,127 (increase £20,887). A surplus of £25,580 was credited to sinking fund account the arrears in which have now been reduced to £42,122. Total connected load was 136,364 kw. (increase of 21.5 per cent.). Maximum output from the power house was 21,020 kw., representing an increase of 24.5 per cent.

At March 31, there were, including Government plants, forty-one public electric power stations in the Dominion as compared with forty-eight last year. One new hydro-station (Marlborough) came into operation, and four water-power (Fairlie, Havlock, Waverley, Rotorua), one gas (Napier), one oil (Hastings), and one steam (Wanganui) stations were shut down from regular operation when bulk supply became available. The total installed capacity has increased during the year from 138,915 kw. to 146,360 kw., while the sum of the maximum loads has increased from 106,282 kw. to 117,445 kw.

The number of consumers supplied has increased from 228,345 to 243,795 an increase of 15,450, or 6.8 per cent. for the year.

The total population included in the various areas of electric power supply is 1,414,932 or 94 per cent. of the total population of the Dominion, so that the ideal of a supply being available to every home in New Zealand is well on the way to realisation.

The proportion of installed plant is as follows:—

	Stations	KW.	Proportion p.c.
Water-power	32	114,132	78.00
Steam-power (excluding hydro standby plants at Wellington (10,000), Invercargill (2450), Waihi (2500)	3	30,874	21.00
Gas-power	3	208	0.22
Oil-power	3	1,146	0.78
	41	146,360	100.00

Of the ninety-nine electric supply authorities engaged in retail distribution of current, eighty-three have an aggregate total of 15,766 electric ranges connected to their systems, and the number now installed represents an increase of 66 per cent. for the year. The number of consumers using electric water-heaters has increased from 14,160 to 21,513 during the year, an increase of 51.5 per cent.

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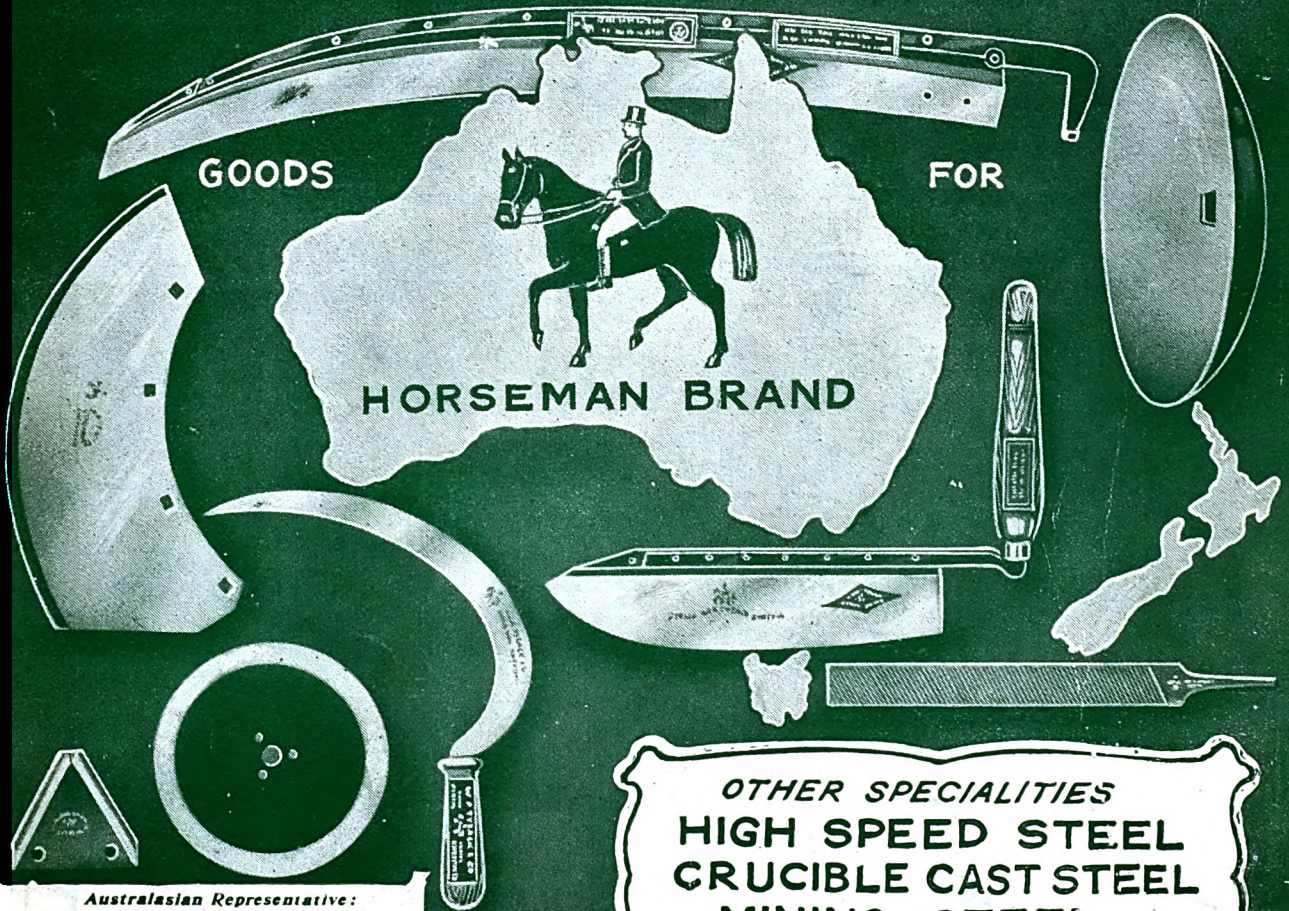
New Zealand

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DECEMBER 6, 1928

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For 30/- per Annum we will supply (in addition to above) The Ironmonger (London), weekly, and a copy of The Ironmonger Diary. All Post Free. Single copies 1/- each. Subscriptions payable in advance.

Advertisers will kindly note that all alterations to Advertisements should reach us by the 25th of the month.

Joins Another Firm

Mr. W. H. Jones, for nearly twenty-seven years with W. A. Sparrow & Co. Ltd., in the export business, has joined James Morrison & Co. Ltd., of 48 Fenchurch-street, London, E.C.3., as manager of their "D" department. Before long, it is understood, Mr. Jones will be visiting his new firm's clients overseas.

The Holidays in Victoria

As in recent years, the wholesale hardware houses of Melbourne will not be open for business between the Christmas and New Year holidays. Closing on Saturday, December 22, they will re-open on Wednesday, January 2. This applies to the firms constituting the Victorian Hardware Association. Retail ironmongers and crockery dealers will close on December 25 and 26 and again on January 1. Christmas eve will be a "late night" with the retail trade of the metropolis.

Satisfying the Customer

The American manufacturer's readiness to meet the desires of those who buy and use his goods is reflected in a recent announcement of Henry Diss-ton & Sons Inc., the well-known saw and tool makers. They say that the trend among mechanics is towards narrower and lighter hand saws, and this tendency they have recognised by modifying the shape and weight of eight of their stock lines. But in many classes of work, they go on to say, the regular patterns are still preferred to the newer and lighter models and it is their policy to give the user the style of saw that he prefers. Consequently their present list contains saws of the older as well as of the newer type so as to meet the requirements of every retailer and every mechanic.

Resonant Control

This is the name given by electrical engineers to a system whereby street lamps receive their supply of current from the same circuit that carries electricity to residences and office buildings. In other words, it sends two electric currents over the same wire at the one time, thus eliminating the expense and inconvenience of special wires for the lighting of the streets. Hitherto separate wires have been necessary because only thus could street lamps be turned on or off from a distant point. Without special wires an attendant would have had to work a switch at each individual lamp-post.

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Because electricity travels in waves two or more currents can pass along the same wire channels, each preserving its identity, so to speak, and neither interfering with the other. Taking advantage of this fact, the Westinghouse Electric Co. set themselves the task of separating the currents and setting each to its proper work. Corresponding to sound resonance—the fact that certain things vibrate to a note of a particular pitch—is what is called "electrical resonance." It is possible to construct a relay so "tuned" that it will operate only in response to one electrical frequency. This is what the company do. They place at the base of each street lighting standard a box containing two relays, one "tuned" to receive an electrical impulse that will turn on the lights and the other "tuned" to turn them off.

This new system is now controlling more than one hundred 750 watt lamps in a thoroughfare connecting the city of Boston with the beach resorts of Cape Cod and the South Shore. Of Westinghouse design it was installed by the Edison Electric Illuminating Co.

Foreign Exchanges

Par.	—	—	Nov 22	Nov 26	Nov 29	Dec. 3
4.886	New York	Dols to £	4.85½	4.85½/32	4.85½	4.85½/32
4.886	Montreal	Dols to £	4.84½	4.84½	4.84½	4.84½
25.225	Paris . . .	Frcs to £	124.10	124.10	124.10	12.07½
35.000	Brussels . .	Bels to £	34.89	34.89	34.19	34.89
25.225	Milan . . .	Lire to £	92.55	92.55	92.55	92.55
12.107	Amsterdam	Flor n to £	12.08½	12.07½	12.07½	12.07½
12.107	Batavia . .	Gul to £	12.08½	12.08½	12.08½	12.08
18.159	Stockholm	Kron to £	18.14	18.14	18.14	18.14
18.159	Oslo . . .	Kron to £	18.19	18.19	18.19	18.19
18.159	Copenhagen	Kron to £	18.19	18.19	18.19	18.19
20.43	Beilin . . .	Gmk's to £	20.35	20.35	20.35	20.35
24	Bombay . .	Pen to rup	18½/32	18½/32	18½/32	18½/32
24.58	Yokohama	Pen to yen	22½	22½/32	22½/32	22½/32
	Hongkong	Pen to doi	2½	2½	2½	2½

*Par depends on rise and fall in price of Silver.

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Editorial

Educating the Employee

For the benefit of their assistants as well as of their own members, the Christchurch (N.Z.) Hardware Merchants' Association arranged within the present year a series of three lectures to which reference has already been made in our columns. With the delivery of the last of them the text of the whole three has been issued in pamphlet form. They deserve a wider audience and we shall endeavour to summarise.

In the first of the lectures on "The Morality of Business," Mr. L. L. Cordery, F.I.A.N.Z., F.C.P.A., inculcated such homely virtues as honesty, courtesy, fidelity and industry, the various points being driven home by quotations and experiences from many quarters. Years ago, said the lecturer, he had coached a good many young men all over the Dominion and in almost all the cases within his observation those who put their minds to their study and worked hard were the men who succeeded. They were now holding good positions or conducting prosperous businesses of their own. In maintaining that the old doctrine of "caveat emptor" (let the buyer beware) was becoming a thing of the past the lecturer quoted Emerson, "Every man takes care that his neighbour does not cheat him, but a day comes when he begins to take care that he does not cheat his neighbour. Then all goes well."

"The Educational Responsibility of Employers" was the subject entrusted to Professor James Shelley, who holds the chair of Education at Canterbury College. Professor Shelley emphasised the necessity of young people coming into practical contact with the basic facts of human existence. The modern world was confusing education with learning. A person might be fairly educated without being able to read or write. Under the old home-stead type of life people made their own food and clothes. The home was no longer the centre of education but rather the workshop, often far removed from the home. No employer nowadays dared to exercise any control over his employees. The person who left school at fourteen could read a bit and write a bit and figure a bit, although in these days of computing machines figuring was not really necessary. But such a youth was not educated. Education involved a real working knowledge of the human being. The difficult age for youth was from fourteen to twenty. The home had lost its power to develop the social consciousness of the youth during these years of rapid character formation, and the church, speaking generally, was not supplying the lack. That gave industry and the professions, where youths were found, their opportunity. They should aim at making the youth know and feel that in his calling, whatever it might be, he could become of real service to his fellows. "If industry is to save the world—and I see no

other way of saving it—it has to realise itself in terms of human service,” and not in terms of money. Education of the employee in the social understanding of his job was needed as well as in the job itself, but before such education was entered upon an employer ought to have some means of knowing how far the employee and the job were going to suit each other. Misfits were all too frequent, and it was hard on a youth to find himself turned away at the end of six or twelve months from a position he never should have occupied. For many jobs, but not for all, vocational tests could now be applied beforehand, and employers in America and elsewhere was enlisting the help of expert psychologists. Given such reasonable assurance that the youths they engaged had a natural aptitude for the work in hand, employers had a two-fold duty cast upon them, first to promote the efficiency of these youths in the doing of that particular work, and second, to show them its bearings on the life of the community.

“The Relationship Between Employer and Employee” was the subject undertaken by Mr. W. Machin, general manager of the New Zealand Farmers’ Co-operative Association of Canterbury Ltd. Were it true, as Professor Shelley had suggested, that the responsibility of educating his employee, of supplying what the home and the school and the church had failed to supply, rested upon the employer, they would agree that the employer had a big job on hand! He (the lecturer) thought they would agree with him that their boys and young men must come to them educated, not completely of course, because none of them ever completed his education, but with such a grounding that they could take full advantage of the training which business and industry afforded. The relationship between employer and employee were going to pieces all over the world, and the results affected the whole community, sometimes in a most disastrous fashion. In New Zealand employers were worse off to-day than before the Great War. Production had not increased *pari passu* with overhead expenses. Why was this? Partly, it had to be confessed, through the faults or failings of employers themselves. With honourable exceptions they had not kept pace with the times in the matter of organisation, elimination of waste, and the introduction of labour-saving machinery. But the obstacles to production occurred more largely on the side of labour. Restrictive labour legislation, ignorance even of the facts and possibilities of the industry in which they were engaged, and the mistaken ideas abroad in the world to-day were keeping men from doing their best. When trouble arose employers and employees did not meet to discuss the matter as man to man. They met within the four walls of a court, with advocates trained to fight out questions that ought to be settled by mutual accommodation. And when an award was secured on grounds other than those of production the employer found that while he was bound by it the employee, because of his mobility—here to-day and gone to-morrow—was in fact not bound. To re-

capitulate, present difficulties were largely due to poor organisation on the part of the employer, to undue restrictions and interference by those that came between employer and employee, to insufficient production in relation to wages in the various industries, and the idea that wages could or should be fixed apart from the facts or possibilities of production. Incidentally import tariffs, particularly high tariffs, had something to do with it. Other contributory causes were the lack of initiative and the undeveloped capacity of many of the younger assistants, a state of things for which, to an extent at least, employers were responsible. If the spirit which Britishers showed in cricket and other sports could be imported into industry the situation would be saved. Why should men be more generous and more conscientious and more unselfish in their games than in their businesses?

“Decent Duffers” in the Making

The sort of thing that may occur under State regulation of wages came out in a case heard during the month by a police magistrate in metropolitan Melbourne. A firm of bakers were charged with having employed a youth of sixteen as an improver for less than the wage prescribed by the Bread Board. The evidence showed that the lad had come to the firm for a month on probation with a view to becoming an apprentice, and that the firm while deciding against apprenticeship had kept him on for some months longer at the request of his parents. An inspector of factories said the wage provided for improvers in the bakery trade was £5/10/- a week. The Wages Board had so decided. An improver was a lad under twenty-one who was not an apprentice. He got a smattering of knowledge and unlike the apprentice, could leave or be dismissed at any time. In all probability he remained a “decent duffer” for the term of his natural life. Imposing a fine of 5/- the firm had by arrangement agreed to pay £10 to the lad in respect of arrears—the magistrate said it was “no wonder youngsters went astray with £5/10/- a week to play with.” There seemed to be something wrong but he had better not say anything about it.

Something wrong! It seems to us outrageous. How any board came to make such an award passes all reasonable comprehension. If their other fixtures are on the same scale it is no wonder the Victorian Housewives’ Association complain of the price of bread! The thing offends whatever way you look at it, economically or ethically, from the standpoint of the general public or that of the fortunate—unfortunate youth on whose behalf the case was brought. Thoughtful men feel that even when paid on lower minimum levels the youth of this country handle too much money for their good. But when a boy of sixteen gets £5/10/- a week to “play with” it is no wonder, as the magistrate says, that he goes astray. For the chances are that he will play with it, spend it carelessly or recklessly, perhaps to his own hurt and the hurt of others. Speaking

generally it is the man of narrow upbringing who learns to handle money thriftily and who in consequence finds himself with something to lay his hands upon in later life. "It is good for a man that he bear the yoke in his youth" says a Hebrew prophet, and down the centuries the yoke of poverty, borne in youth, has proved a good thing for many a man. More than he who must perforce take care of every shilling that comes to him, the youth with £5/10/- a week to spend is likely to end a "decent duffer" on an old-age pension. Too many of our people will reach that terminus without any help from short-sighted wage-fixers.

[From a statement made by a member of the Bread Board since the foregoing was written it appears that the high rate of £5/10/- a week is fixed of set purpose in order "to discourage the employment of improvers as much as possible." It really ought to succeed!—Ed.]

New Aeroplane Engine (By Basil Barham)

The Packard Motor Co. have designed and built an aeroplane engine of the Diesel type which they have tested and found successful in every way. This engine is the first of its kind to give satisfaction and it is to be developed on a commercial scale.

The tests were made at Detroit in a regulation pattern Stinson-Detroiter monoplane before a company of aeronautical engineers, the plane being piloted by Mr. Walter Lees who had with him as passenger Capt. L. M. Woolson, the designer of the engine.

The engine develops 2000 horse-power and is of the radial, air-cooled type. It is run on heavy oil—the design eliminates the use of petrol—has no ignition system and consequently does not require carburettors, magnetos, sparking plugs or insulated rubber covered electric cables, all of which parts are more or less liable to give trouble.

The principle on which the engine operates has so far only been applied in practice to engines of medium and large size for power plants and ship work. For marine work the type is gradually superseding other forms owing to the simplicity and ruggedness of design and the fact that it has fewer parts than any type of petrol engine. The power is obtained by compressing air in the cylinders to such a degree that it becomes hot enough to ignite a charge of oil injected at the top of the stroke, the explosion of which gives out sufficient power not only to drive the engine to full capacity but to compress the charge of air for the next stroke.

According to its designer, this new engine possesses the following advantages over those of the petrol driven type:—(1) elimination of the danger from fire from petrol; (2) reduction of fuel consumption and cost. It is claimed that the motor will carry a plane 25 per cent. farther with the same weight in oil fuel as compared with petrol; (3) making possible radio communication with aircraft on a broad scale, due to elimination of interference by electrical ignition systems and petrol engines.

From an engineering point of view the most revolutionary feature of the new engine is the weight reduction that has been achieved. Hitherto the lightest Diesel engine has weighed about 100 lb.

per horsepower. The new Packard motor, giving out 200 horse-power weighs only just over 550 lb., a reduction which German engineers, who have made an intensive study of Diesel possibilities, regarded as beyond the realms of possibility.

The Packard Motor Co. are arranging for further exhibitions of the new engines before government officials after which production will be carried on as quickly as possible.

"Simoniz" Gifts for Motorists

The idea of extending the scope of Christmas gifts to include articles of utility should commend itself to commonsense people. It is a pleasure to receive something we really need instead of a more or less useless nic-nack which is seldom if ever used.

A gift of a complete cleansing outfit for his car is sure to please the motorist, and a set of this kind is advertised in our columns. Two sizes are available, small and large, and each is carefully wrapped in a special three-colour Christmas gift wrapper, fixed with seals, and supplied with a neat imprinted card to indicate the name of the giver and the recipient. No mention of the contents is made on the outside, ensuring a surprise when opened.

In each set is the "Simoniz Kleener" to remove dullness and blemishes from any type of car finish—Duco, lacquers, varnishes, or enamels. This prepares the surface for "Simoniz," which is also included, and imparts a brilliant dust-proof finish. Once cleaned and polished with these preparations the surface lasts for a considerable time. Dust, dirt and mud splashes can be easily removed with a soft cloth without scratching. Special cleaning and polishing cloths form part of the outfit. The whole fits neatly into a strong cardboard hinged-lid box. The prices are 10/- and 5/- for large and small sizes respectively.

The Australian agents are Motorite Equipments Pty. Ltd., 213-15 Queensberry-street, Carlton, Melbourne.

Petrol From Coal

The erection of a new low-temperature carbonisation plant for providing London with motor spirit and smokeless fuel is announced in a circular letter issued by Low Temperature Carbonisation Ltd., of London and Barnsley.

Reviewing the effect of the Budget proposals on the company's prospects, the circular states that they are primarily of importance inasmuch as they reflect the determination of the Government to foster the industry concerned with obtaining oil from British coal. The relief from duty of 4d. per gallon on petrol is equivalent to a preference of nearly £5 per ton on spirit derived from coal, thus greatly improving the prospects of the British motor spirit industry which hitherto has had to compete with very cheap imported oil.

Work has been proceeding for some time with a view to evolving the most efficient method for the conversion of the crude coal oil into motor spirit and its other constituents. The directors of the company are working in close collaboration with the leading cracking and refining experts in England, Germany and America, and an early development of a satisfactory character is to be expected.

New works at Asken colliery are being put in hand at once, while a second works will be erected in London, probably on the Thames, in order to provide coalite for the London market.

Inquiry Column

During the month we have supplied answers to the inquiries indicated below. Firms with whom we have not already communicated who hold any agency connection with the firms, or handle any of the lines mentioned in this section, are invited to furnish us with particulars so that our lists may be complete.

TRADE INQUIRIES INFORMATION WANTED

"Noera" Oil Cans.—Name and address of agents wanted.

"Trinity" Cooking Stove.—Name and address of makers wanted.

"Kitchen Cook" Petrol Stoves.—Name and address of agents wanted.

Coes Wrench Co., Worcester, Mass., U.S.A.—Name and address of agents wanted.

Frank Shaw & Co. Ltd., Birmingham (nails).—Name and address of agent wanted.

J. A. Launder, London (show room fittings).—Name and address of agents wanted.

Grinding Machines for lawn mowers up to 36 in.—Name of firm able to supply wanted.

Samuel Withers & Co. Ltd., West Bromwich (safes).—Name and address of agent wanted.

The Standard Sewing Machine Co., Cleveland, Ohio, U.S.A. ("Cleveland" sewing machines).—Name and address of agents wanted.

INFORMATION SUPPLIED

"Meccano".—Name and address of agents supplied.

Dixon's Pencils.—Name and address of agents supplied.

"Beldray" Metal Ware.—Name and address of agents supplied.

J. Legge & Co. Ltd. (locks).—Name and address of agents supplied.

W. Canning & Co., Birmingham.—Name and address of agents supplied.

"Austral" Stove or "Lux" stove as it is now called.—Name and address of makers supplied.

Bulpitt & Sons Ltd., Birmingham ("Swan" brand aluminium-ware).—Name and address of agent supplied.

Book of "Enamels" issued by Charles Griffen & Co. Ltd., of London.—Name and address of firm able to supply furnished.

The Standard Sewing Machine Co., Cleveland, Ohio, U.S.A. (Cleveland sewing machines).—Name and address of agents supplied.

LEGAL INQUIRIES

Who is Responsible?

One of our subscribers (9/171) instructed a wholesale firm to make up some £5 worth of goods for him and send the parcel to a certain depot for a lorry driver to pick up. The parcel was not delivered and the driver says it never came into his hands. The wholesale firm hold the depot keeper's receipt for it, but the latter says he makes no charge for receiving such parcels, accepts no responsibility and has a notice on the wall to that effect. What is the position legally?

A.—On the facts stated (1) the subscriber is liable to the firm for the price of the goods while (2) the depot keeper is under no liability unless he can be shown to have been grossly negligent in the care of the parcel.

Goods Not According to Order

In Queensland recently a subscriber (61/237) arranged with his bankers to pay £100 for goods which he had ordered from America. The invoice price and charges amounted to £137 and the goods proved quite unsuitable. While he paid the £100 to the bank as arranged, our subscriber asked the American merchants to forward the right goods. They ignored this request, but offered to forego the extra £37 if he accepted delivery. He refused and the bank, which still holds the documents, demands a further £10 or so for expenses incurred. He wishes to know if the bank can fairly claim this extra money, if without paying it he can recover the documents, and what he can do to make the American firm rectify their mistake.

A.—It is clear from the papers that (1) the bank is entitled to be paid all costs, charges and expenses incurred in regard to the goods or to any matter connected with the credit. (2) the bank can retain the documents until these charges are paid. (3) the subscriber probably has a right of action against the American merchants for damages for supplying goods not in accordance with the order; but the amount at issue would probably not justify proceedings, unless these could be taken in a Queensland Court. Advice of a local solicitor who can see all the papers should be sought.

Correspondence

The Land and the Book

To the Editor, "Hardware and Machinery."

Sir,—

The comments by "J. Knibb" under the heading of "Sundry Credits" are usually brightly written and interesting, but if he wishes to hold the interest of his readers he must cut out such stuff as appears in the final paragraph of the page in your last issue, entitled "The Land and the Book." After juggling with some foreign coins—the result of which appears rather to prove that the Founder of Christianity was wrong instead of the pamphleteer—he assumes he has annihilated the latter's argument. That the Master dealt with principles I have never heard anyone deny, and I should think least of all the writer of the pamphlet. "J. Knibb," I notice, does not state what the particular principle involved in the Master's statement on this occasion was. He apparently thought it too obvious to need defining; and he is right. It can bear only one interpretation—things should go where they belong. A simple act of justice.

Now I have not read the above-mentioned pamphlet, nor do I know anything about the author, but I know something about the principles underlying Henry George's teaching—which by the way have never been disproved. The writer of the pamphlet apparently stated the simple fact that land values in principle are created by the presence and industry of the whole people, and therefore belong to the community as a whole. He therefore quite rightly and logically used the Master's words to give it moral force. "J. Knibb" will find that it will take something more than the literary manipulation of a few coins to upset such an obvious fact.

No, No, J.K., you must give your readers something less "sloppy" than that if you wish to retain their respect.

Yours, etc.,

Subscriber (2/238).

Sundry Credits

(By J. Knibb)

Some of us have known people who could read, but could not write. But a man charged with house-breaking recently told a Melbourne judge that while he was "a very good writer" he could not read at all. He had been to a State School but could never learn to read, had been born with the inability, in fact. "Rather remarkable," said his Honour. And so say all of us. I have listened with pleasure to a celebrated singer who, report had it, was similarly unable to read music. She learnt her tunes "by ear." But with the songs themselves no such natal defect was apparent. The eye was engaged every now and then. I never saw music in her hands but she carried "a book of the words"—and used it.

One of the "big men" of a big city is Sir Joynton Smith, K.B.E., business manager and property owner, of Sydney. He began in London as "boy" in a small ironmongery shop kept by his people. Recently he paid a visit to England, where, judging by press accounts, he seems to have "astonished the natives." He not only told them how horse-racing should be conducted, but offered to do it for them. At any rate he was prepared to take over one course and run it on brighter and better lines. A photograph reproduced in an Australian paper shows the knight again behind the counter of the little shop at Hackney where his brother now reigns, and with him another and younger Smith, a nephew.

The "simplified spelling" crusade seems to have spent itself. Even in the United States, where the campaign was carried thru with great determination, the more familiar if less phonetical forms are making their reappearance. In Victoria some time ago, the Education Department struck the "u" from such words as honour and neighbour. Now they have felt constrained to put it back again. A good job too! These words come to us not direct from the Latin, but through the French, a fact which reform spellers would hide from the eyes of youth. Why should you bear false witness against your neighbour? The "u" shows that he came over with William the Conqueror, and you would take it away!

Professor Griffiths Taylor, who fills the chair of geography at the University of Chicago, suggests twenty millions as the maximum number of people that Australia can expect to carry. Formerly connected with the School of Geography in Sydney, the professor has a right to his opinion, although it is an opinion with which many will refuse to agree. Some who have visited Central Australia speak enthusiastically of the water underlying the sun-baked crust of the earth and the splendid crops resulting when this water is tapped. They seem to assume that it is so or would be so everywhere. No! Only a part of our island-continent is really artesian, and in other parts you might dig for months and miles without seeing a drop of water except such drops as fell from your forehead. Evidently the professor has that fact in mind, although it is to be hoped he is making too much of it.

Labour people are notoriously suspicious of business men and business methods. To their thinking no good thing can come out of commercial Nazareth. The operations of the Proprietary Articles Trade Association are more than suspect in Victoria just now. An official appointed to look into the matter has solemnly declared that its operations really constitute restraint of trade. It may be so, of course, for aught I know to the contrary. In this particular case the P.A.T.A. people may have been going further than they have any right to go. What I know is that the P.A.T.A. principle, the principle of a manufacturer deciding at what price his goods shall be sold, has been upheld by the highest legal authorities—so long as that price is not unreasonable.

However much Labour administrations may object to price-fixing by others, they all seem anxious to have the power in their own hands. Some of them have exercised it on occasion, and found it not so easy as they had expected. Such exercise was not restraint of trade, however, but official benevolence! In the field of industry, as we all know, Labour men practice as a virtue that elsewhere they would denounce as a vice. Restraint is written all over that "new province of law and order." I am not free to make my own engagement with the old man who keeps my garden in order for me. "What is sauce for the goose is sauce for the gander." Quote that proverb to a Labour politician, and he will reply with another, "Circumstances alter cases." Quite so!

You may have heard of the man who provoked to relieve his feelings uttered the work "Assuan" on the ground that it was the biggest dam in the world. It is so no longer and that man will have to learn a new expletive. In this particular, Egypt has been displaced by India. The cable has informed us that the largest dam yet constructed was opened at Bhatgar, near Poona, on October 27. Seventeen miles in length the lake has a capacity of 150,000,000,000 gallons of water. It has taken fifteen years to complete and cost a million and a quarter of money, but it is expected to increase the value of the harvest reaped by nearly twice that amount every year. British occupation has its benefits whatever the critics may say.

Twenty-five years ago, says a New Zealand visitor to Australia, Sydney was the cheapest city to live in on this side of the world. It was, I believe. Back in the early nineties I entered the "Harbour" for the first time on Howard Smith & Co.'s old steamer "Peregrine." Shipping competition was keen just then and I only paid two guineas for a first saloon return ticket. Going and coming I was some days on board, and being a good sailor and young and healthy I must have eaten two guineas worth of food! On shore, too, the charges at that time were wonderfully low. Accommodation was cheap, travelling was cheap, everything was cheap. Very cheap compared with Melbourne. New South Wales was then free trade, whereas Victoria was the other thing. To-day, says this same traveller, Sydney is one of the most expensive cities in the Southern Hemisphere. I can well believe it. Gone the penny fares and the three-penny shaves, and the nine-penny meals, good three course meals, remember, deftly served in bright, well-appointed rooms—not offcuttings in a doss-house. Gone forever! A shilling went some way then but now?

News from Abroad

Publisher of "The Ironmonger"

After thirty-one years' service with "The Ironmonger" (London), the last twenty-six of them as publisher of that well-known paper, Mr. John E. Glass has retired. A Londoner by birth, Mr. Glass has had to do with the hardware trade all his life, most of it on the advertising and trade journal side. His successor as publisher of "The Ironmonger" is Mr. R. C. Messent who has been connected with the paper for more than thirty years, and assistant publisher since 1919.

Fifty Years of Wire Weaving

Under this heading "The Hardware Trade Journal" calls attention to the firm and business of Thomas Locker & Co. Ltd., wire screen makers, of Warrington, England. Four generations of Lockers have been engaged in wire-weaving, although only three of them have been connected with the firm. The founder was the late Mr. Thomas Locker, but his father Mr. James Locker, was "the first man to weave wire cloth by power." Portraits are given of six men representing the four generations, three of the six now constituting the directorate of the company.

Gibbs, Bright & Co., represent these manufacturers in Australia.

Entering the Electrical Field

According to British exchanges, Lane & Girvan Ltd., fuel stove makers and general ironfounders, of Bonnybridge, Scotland, are extending their interests by taking up the manufacture of electrical cooking and heating appliances. To accommodate this additional department extensive new works are being erected by the firm. The steel-framed buildings of brick and concrete will be two storeys in height and as fire-proof as it is possible to make them. They should be well up by this time, and the firm's "Caledonia" electrical appliances will be in the market at an early date.

Mr. Robert Grieves, of 377 Flinders-street, Melbourne, C.I., has handled for years certain of the firm's fuel stoves on a selling agency basis.

Norcross Hoe Inventor Dead

Advice has been received by Mr. Harold R. Richardson, of Sydney, representing C. S. Norcross & Sons, Bushnell, Ill., U.S.A., of the death on October 17, of the senior member of that firm, Mr. C. S. Norcross. Deceased was the founder of the manufacturing business in which he was engaged with his two sons, Mr. Le Roy Norcross and Mr. Guy Norcross. The idea of the Norcross hoe originated with him some twenty-five years ago when he stepped out from a blacksmith's shop and commenced the present factory at Bushnell, and after several improvements to the tool established the Norcross hoe so that it is now largely used throughout the United States, Europe and Australasia. To his fine personality and generous spirit a lengthy tribute was paid the deceased by the local newspapers.

Woman Export Manager

Among American distributors of lubricating oils are the Three-In-One Oil Co., of New York City. Their export manager is not a man but a woman, Miss Gladys Liggett. She has been associated with business firms for some years, is a member of the Export Managers' Club of New York, and a great student and worker. From filling a similar position with another firm she was appointed export manager for the Three-In-One Oil Co., and "has made a success of marketing this branded specialty in thirty different countries, under a variety of merchandising arrangements as suited to each market." It would seem that like some ladies of the stage and platform, Miss Liggett has carried her maiden name along with her for the paper from which we quote says she is married with a little daughter five years of age.

In Australia this firm are represented by R. W. Cameron & Co., of Sydney and Melbourne.

German Locomotives in South Africa

That cheapness and efficiency do not always travel hand in hand is exemplified in the case of the two German locomotives, at present out of commission, recently imported into South Africa at a cost of £15,250 each. They were intended for the fast train service between Johannesburg and Cape Town, and on arrival were found utterly useless for the purpose. In fact they have up to the present proved utterly useless for any purpose at all, and they are laid up in the Pretoria railway workshops, waiting, so it is rumoured, to be scrapped. With German engines of another type the Government has been equally unfortunate, it being found that the engines were too heavy to go over the railway bridges. Certain American locomotives have proved equally unsatisfactory, so much so that the railway authorities have had to call on the "16" class of British engine, known as the "best engine on the South African railways" to perform most of the work. The moral seems to be obvious: Where British is best, why not stick to it?—"Industrial and Commercial, South Africa."

Anglo-American Tinplate Convention

According to "The Economist" an agreement has been reached by the tinplate manufacturers of South Wales and the United States for a geographical division of foreign markets.

Since the Great War the American production of tinplates has been approximately doubled, with the result that a growing quantity was available for export to other countries in competition with British supplies. The results were unsatisfactory to both countries as prices were cut and profits sacrificed. To minimise as far as possible the evils of over-production and inter-competition, a central selling office was established in America under the title of the Tinplate Export Association, which pooled orders and otherwise sought to protect the industry. Fifty per cent. of the British output has been under the control of the South Wales Tinplate Corporation. On both sides, that is to say, there has been a measure of organisation.

Under the arrangement now come to, 70 per cent. of the present combined or total shipments of tinplates is allotted to Great Britain and 30 per cent. to the United States. The scheme does not carry with it any price-governing conditions, but in those markets receiving tinplates from both countries a certain amount of co-operation will take place so as to avoid unnecessary price-cutting. None of the markets held by Welsh manufacturers is to be handed over to the United States, nor will the channels through which manufacturers are now doing business be interfered with in any way. But it will be necessary to establish in London an organisation akin to the United States Tinplate Association for scrutinising specifications and destinations so that everything may be done in accordance with the terms of the agreement.

"This is the first formal agreement affecting overseas trade which has ever been entered into between the tinplate producers of the two countries, and its consummation marks a new era in the history of the trade. To what extent it will prove equal to the changing conditions of expanding or contracting foreign markets experience alone will show, but there is every likelihood that it will secure for some time the removal of one of the most active of the causes which have been responsible for the very depressed state of prices during the past two years. Moreover, it is not improbable that it will have repercussions on the internal organisation of the industry in this country, and tend particularly to strengthen the tendency towards the concentration of the disposal of the whole output of the United Kingdom in the hands of a central sales organisation."

Novelties and New Samples

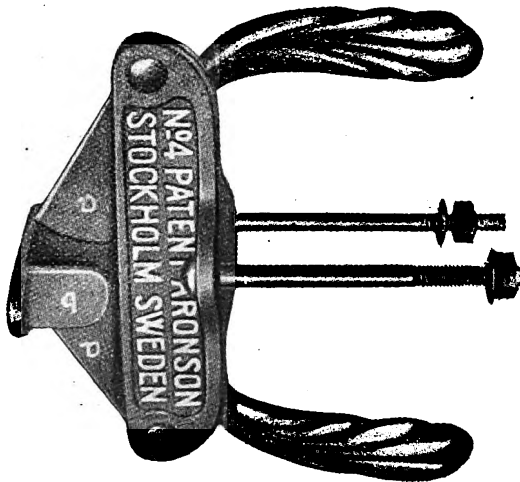
Aronson's Gate Catch

The number of gate catches already available is legion, and any new device of the kind needs to present outstanding features to gain a place in the market. Aronson's gate catch has been patented throughout the world. This fact alone is significant. It carries the assurance that it has points differing from previous designs.

This is a Swedish invention, and the principle is so effective and so simple that the first thought after inspection is surprise that it was not exploited long ago. By pressing down the handle both lips recede, allowing the gate to open whichever way is desired. In the act of closing each lip works independently, so that when one lip is in contact with the stop on the gate, the other remains up to halt the gate in position. Provision is made for ample sagging and dropping of gate posts.

A valuable feature, and one which will appeal to farmers or householders is that the catch may be instantly and firmly locked on either side at will. This permits of its being opened from one side only at the choice of the owner. Cattle cannot possibly push the gate open, while in the suburban dwelling it enables the householder to effectually bar the entrance to hawkers and undesirables generally.

The appliance is made of Swedish malleable cast iron, its strength and toughness being remarkable. The lips are controlled by springs of high quality piano wire. One accepts the makers' claim that it is practically everlasting. The catch is suitable for all gates, whether of metal or wood, as well as for garage or workshop doors.



The sole Australasian agents are Amalgamated Agencies (Australasia) Pty. Ltd., of 135 William-street, Melbourne, who propose to appoint reliable hardware storekeepers as their district agents in all towns throughout Australia. Their sub-agents in New Zealand are J. F. Hargrave & Co. Ltd., of Wellington.

Australian Manufactures

Pitt-Wardell Pty. Ltd., of Preston, Victoria, are makers of split links, tyre grip chains, plough chains and hooks, chain rings and similar articles.

Samples of all these may be inspected at the show rooms of the representatives, Johnson & Gaston Pty. Ltd., Hardware House, Post Office Place, Melbourne.

Hand Grinder

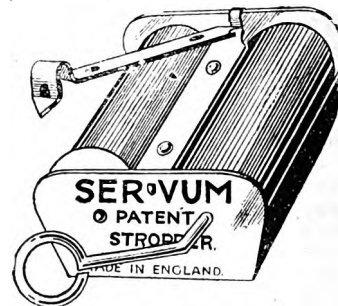
A useful little bench grinder comes from Clausen & Petermann, of Westfalen, the Australian agents being Horn & Co., of Melbourne, Sydney and Adelaide.

An all-enclosed gear permits it to be easily turned at any speed. It is suitable for grinding scissors, knives, choppers, mincing knives and tools of all kinds. The wheel is 3 in. in diameter by $\frac{1}{8}$ in. thick. The appliance is compact in appearance, and sells at a remarkably low price.

British and Continental

Norman Baker & Longhurst, of 50 York-street, Sydney, have lately become Australian representatives for several new manufacturing firms.

Comerford & Co., Shanghai, China, are represented by a comprehensive display of hand made



cloisonne and carved lacquered goods, also ancient and modern design porcelain goods, a large collection of Chinese brassware and blackwood stands and blackwood and lacquered furniture. From this firm's London House the agents are showing a low price patent stropping machine called the "Servum." This is a very simple device consisting of two hard composition rollers and rubber wheel held in a nickel-plated frame, and in operation it is only necessary to lay the blade to be stropped flat on the lower wheel, clamp down the nickel spring catch and give the handle a few turns, then reverse the blade and repeat the action. Although of simple construction, it is said to be thoroughly efficient and will last for a very long time.

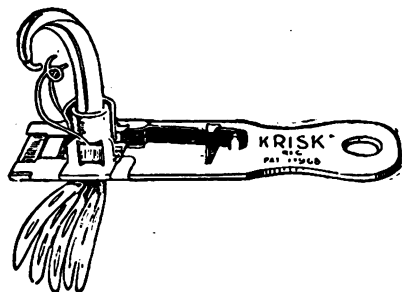
British Metal (Kingston) Ltd. of Kingston-on-Thames, England, are noted for the production of an almost inexhaustible list of engraved brassware, a large proportion of which is enamel inlaid. Known by the registered brand "Kinco" the list includes solid brass trays of Persian, Saracenic, Japanese, Indian, Moorish and Turkish designs which are guaranteed to be hand coloured. The weight and rigidity of metal of these productions attest their character and they require no cleaning and polishing in order to preserve their brightness. Smokers' trays, inlaid with two delicate colours fitted with glass linings are a speciality of this firm, and are represented in many different shapes and decorations. A series fitted with allegorical figure rests are particularly suitable for presentation purposes although inexpensive. Table bells, candle sticks, powder bowls, vases, rose bowls, jardinières, shoe horns, cigarette and match holders indicate the numerous lines comprised in this collection.

Eisenhuette, Silesia, is a Polish firm who manufacture enamelled hollowware and have also factories in Germany. The range includes all classes of kitchen hollowware and other utensils, some of the lines being shown in different styles such as kettles which afford a selection of eight different types, toilet sets and bathroom appurtenances,

Mono Curtain Rail Co. Ltd., Birmingham, are the manufacturers of a patent rustless curtain rail known as "Monolette." Besides easy adaptability to any shape or width of window these rails it is claimed will carry any weight of curtain and can be drawn to spread or close up with the greatest of freedom, this latter being obtained from fine runners which travel freely on a stamped turned in edge which provides the rail. They are supplied in any length up to 14 ft. and are sold at per foot lengths including three runners and patent adjustable brackets to each foot. Made entirely of brass and highly polished they can be bent by hand to fit a bay window and are yet strong and rigid when erected, and so constructed that where desired curtains can be made to overlap in a simple and efficient manner without in any way impairing the freedom of drawing.

Bean Stringer and Slicer

The "Krisk" bean stringer and slicer, lately put on the market by the makers the Tatham Cutlery Mfg. Co., Bowen's Buildings, Railway Square, Sydney, is stated to have found favour with the public. It is an ingeniously constructed and well made implement produced from aluminium, fitted with a razor blade knife at one end to top and tail the beans, and four similar blades set below the funnel where, by inserting a bean in the former and draw-



ing it through, it is stringed at both sides and also cut into three. In other words, the bean is stringed and cut into three slices. The implement is so made that new blades can be inserted as and when required.

Secateurs and Golfing Goods

Mr. Clive Hogbin, who some twelve months ago established himself as a manufacturers' agent at Brook House, 17 O'Connell-street, Sydney, has lately returned from a visit to the principal centres of the Commonwealth. He represents certain British firms.

Paul Mitton & Co., London, are manufacturers of the well-known "Mexeur," "M.A.C." and "Ship" brand secateurs which combine a range of 69 distinct patterns for orchardists, gardeners and sheep stations. Of recent introduction is the No. 407 "Ship" brand which is a high quality, heavy weight, well balanced and all-bright tool with chequered handle and is offering in sizes 8 and 9 in. No. 0, a 7 in. secateur expressly designed for ladies' use is heavily nickel plated and furnished with spring and new sure-locking device.

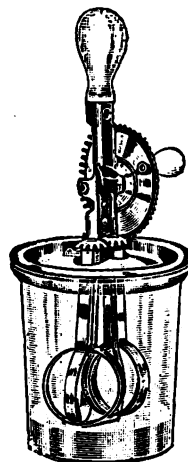
The same manufacturers also make a feature of cutlery such as French cooks' knives and forks, butchers' knives, ham slicers, boning knives and stainless or polished boxed paring knives, while they also control the output of French factories for all kinds of wooden spoons and utensils for kitchen use and bone articles such as mustard and salt spoons. Steel splinterings, swivel and spring hooks are also shown in wide ranges.

Robert Bryant Ltd., Kennington, London, are makers of high class golf bags represented in all-leather, canvas with leather furnishings, and a new departure which is canvas bag with bright coloured

fittings such as green, blue, red, etc. The "Ritchie" patented golf bag is made with slanting, oval ring and two club dividers eliminating the possibility of damage of clubs knocking together. The "Security" is another patent bag fitted with detachable lock-furnished hood and inside pocket for carrying shoes and balls.

Kitchen Requisites

Mr. P. Clifton Jones, Australia House, Carring-ton-street, Sydney, has lately been appointed Australian representative for the A. & J. Manufacturing Co., Bing-hampton, New York, U.S.A., who specialise in kitchen cutlery and all classes of kitchen tools. A comprehensive collection of samples is now being shown both in Sydney and at Arco House, Coles-lane, Melbourne.



The cheaper tools are shown with various coloured handles to harmonise with the latest idea of colour schemes in kitchen appointments, and in addition to white handles with "blutip," any line can be ordered with either red, yellow, green, light blue, dark blue or all white handles. The metal parts are heavily nickel plated and the handles are water-proofed before being enamelled.

Attractive items are basting, butter and measuring spoons, cake turners, spatulas, ladles, potato mashers, forks, ice picks, apple corers, utility brushes, can openers, paring knives, cake whips, egg beaters, beaters and bowls, salad and vegetable choppers. There is also a range of tools whereof all metal parts are produced from stainless steel even including the rivets. The standard handles are ivory with "blutip" and all the smaller articles in the nickelplated series are included in the stainless collection at exceptionally low prices.

There is also a better grade of "blutip" stainless tools packed in individual boxes. The handles here are lacquered in soft grey, with "blutip." The boxes are most attractive and these tools particularly are suitable for presentation. The egg beater might be singled out as a special feature or leading item in this collection. In addition there are fruit and grape fruit knives, bread knives, meat knives and forks, cake whips, apple corers, ladles, etc., which lines ought to interest department stores as, having regard to their high-class finish, the prices are very reasonable.

Included in the display are attractive lines of toys or boxes of juvenile "blutip" kitchen tools which should find favour. The boxes are beautifully labelled with the title "Mothers Little Helper" and contain miniature assortments of all the tools mentioned above, while to some are added cake tins, paste boards and rollers, cookie cutters and bowls.

The illustration shows a beater with glass bowl and cover.

Cutlery and Electroplate

New samples of knives, carvers and electroplated ware are being featured by J. L. Walters Ltd., 222 Clarence-street, Sydney, on behalf of Thomas Ibbotson & Co., Sheffield. Serrated edge bread knives and carvers are attractive with their xylonite handles, while the variety of cooks' kitchen and hunting knives should satisfy every desire of this market. Fish eaters and servers, afternoon tea sets, cake forks and servers, salad sets and servers, bean coffee spoons and child's sets in attractive get up comprise the E.P. ware on show which samples are further augmented by the excellent array of canteens in oak, walnut and mahogany in most attractive designs with varying capacities from 15 to 110 pieces.

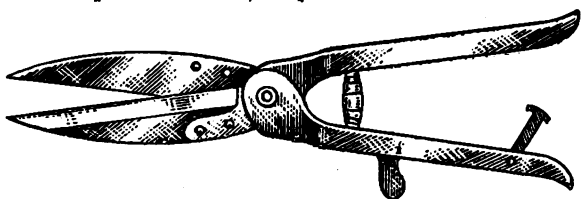
Disston Saws and Other Tools

Henry Disston & Sons Inc., Philadelphia, U.S.A., are introducing into Australia and New Zealand a featherweight pocket level made entirely of aluminium alloy which, although 9 in. in length and furnished with level glass and two plumb glasses, weighs only 2 oz. This admirably constructed little tool, should merit the approval of buyers and tradesmen as also of the handy man. It is so made that it can be safely carried in a tradesman's bag among other tools without fear of damage or impairing its accuracy, and it is particularly commendable from the manner in which the glasses are set to enable easy reading in any position. The list number is A10 and it is put up in neat cartons containing six levels and with each set a nice display card is given.



Another innovation is the new Disston No. 106 grass shears, a distinct departure from the standard tool of sheep shear type. The blades extend down into the handles, are produced from forged Disston saw steel, hardened and tempered, and are so bevelled as to give a keen edge. It will be noticed in the illustration that the blades are securely rivetted to the pressed steel handles immediately above the centre bolt and that the bolt connects both blades and handles, the latter being knurled to provide a comfortable non-slipping grip. These shears, too, are provided with a volute type spring, thumb hold, and a special spring catch which, used one way, makes a positive lock, and another way, a spring catch that releases automatically when the handles are pressed together. The length of these shears is 13½ in. over all and they are supplied half a dozen in a box, two boxes weighing 13 lb.

Advice has come to hand that indents for the new line of Disston hand saws are now being supplied from the factory. Beauty of design is a point for which the makers take special pride in these saws, while the practical points are that they are lighter in weight, have narrower blades, thinner backs, have a new high polish and an improved design in the handles. Each of these features apart from the improved appearance has a specific purpose. The thinner blade effects easier and faster cutting. The high polish ensures greater freedom in operation and less susceptibility to rust. The handle has a cover top and larger hand holes, while the blade is set appreciably further into the handle. It should also be mentioned that the handles are weatherproof finished, a process which has been



tested to exposure outdoors for two years. These hand saws are now supplied in stronger boxes than formerly, sealed with tape instead of tied and the labels on the end and side of the box are in orange and black showing quantity, grade, size, plint and whether rip, hand or panel.

Yet another new departure of these manufacturers is the production of machine hack saw blades made from a special high speed steel. It is claimed for these that they will stand up to 30 to 50 per cent. more work than hack saw blades previously on the market.

Samples of these tools can now be inspected at the office of the Australian branch of the company,

Henry Disston & Sons Inc. (Australasia) Ltd., University and Gibbins-streets, Camperdown, Sydney.

Ring Receptacles For Frying Pans

Walter A. Cox Ltd., of 195 Clarence-street, Sydney, have received from Sellman & Hill, Wolverhampton, England, samples of "Poachette" rings for use in frying pans when poaching or frying eggs. Constructed of aluminium they are meant for placing in the pan acting as separate receptacles thus obviating any cutting apart after cooking. They are procurable at a very low price while their get-up in coloured cartons which hold four rings should attract buyers.

Composite Tool of Australian Invention

The illustration below shows one of the principal uses of Fraser's patent wrecker and builder, a small tool with a big name.

Galvanised iron may be removed without damaging the sheets, owing to the shape of the claw. The handle end is used to lever off boards, the fulcrum being increased at will by a sliding ball which also



forms a good "grip" for the hand. Used as a hammer great driving power is obtained, the ball being allowed to slide down to the head for greater weight. Altogether this is a handy article of great strength.

This tool is the invention of Mr. John Fraser, of Glenthompson, Victoria, to whom inquirers are referred.

New Water Tap

Mr. M. H. Rogers, of 107 Oxford-street, Sydney, is showing an improved tap styles "Simplicitas" from the works of Sperry & Co., Birmingham, England. Constructed to meet all Australian Water Board requirements, this tap is so made that the cover and cross-top are removable without withdrawing any set screws making it accessible for adjustment or renewal of washer. The spindle is not shown as it rises and falls in the combined cover and cross-top which gives a streamline effect and eliminates any showing of thread. The buttons are removable—an obvious advantage where the demand for hot taps or vice versa is greatest. Stainless finished the taps are shown in two patterns in bib-cocks, pillar-cocks and stop-cocks.

Australian-Made Rim Locks

Henry Lane (Aust.) Ltd. at their Newcastle works have produced a rim lock in its entirety (with the exception of the knobs), which they are now placing on the market. The lock is a definite improvement on ordinary forms in that it is made from all stamped steel including the follower which is of one piece instead of two or three pieces. Of special note is the fact that it is double locking; that is to say, when the key is turned both the latch and shoot are locked together. The internal working parts are extremely simple, there being only six including the spring. Another point is that the back is securely fastened with a brass sliding clip so that no screws whatever are used to hold the lock together.

The lock is of standard size, and the action is particularly smooth and free. The finish is pigment enamelled, baked at an even temperature in a thermostatically controlled furnace. Provisional world's patents have been secured.

Bathroom Fittings and Tools

Mr. Geo. Craig-Brown, of Hardware House, 386 Post Office Place, Melbourne, amongst a large range of samples from Von Hagen & Arns of Elberfeld, Germany, is showing a range of bathroom fittings which are proving attractive to buyers. These are of porcelain enamel upon cast iron, while the metal parts are chromium plated. This process of manufacture imparts a bright silver-like finish of great hardness, requiring no polishing, and resisting acids and alkalis alike. The prices of this range are astonishingly cheap, while the construction bears the closest inspection, and the finish is good throughout.

Another line which appeals is a pistol-grip hacksaw frame, adjustable to all sizes of blade. The frame is nickel-plated, very strong, and perfectly simple to adjust. In view of the insistent demand to-day for a pistol-grip type the trade will be interested in this line. Again a Chapman pattern brace attracts attention. Strongly made, with armoured head, the large chuck enables it to take any bit. The sweep is 10 in. Here also, as with the hacksaw frame, the value offered at a low price is a big feature.

Space does not permit at the moment a review of all the Von Hagen range, but mention should be made of a line of galvanised wire door mats. These are of good quality and are supplied in various sizes.

Welding Rods

(By Fred. Grove-Palmer, A.I.C., London)

The constant research that is being carried on in the science of welding shows that the older methods need revision, and that there is more in the welder's art than many users of the blow-pipe imagine.

For instance, it was long the custom, when welding two pieces of cast iron by the oxy-acetylene process to use a strip of metal cut from one of the pieces as the welding-rod. In these circumstances it was usual to reckon that the loss of tensile strength at join might range from ten to fifteen per cent.

It was not realised that when the welding-rod is melted in the gas flame at a temperature of about 3500 deg. Cent. oxidation takes place, some of the carbon and other ingredients of the cast iron rod being driven off, with the result that the join is in reality a different metal from the remainder of the work.

Once this is understood it is necessary, obviously, to have welding-rods made from metal with another formulation, constituted in such a way that when the oxidation takes place it will bring the whole of the metal to about the same composition.

Working on these lines it has been possible to produce suitable welding-rods that will give joins whose tensile strength shows little or no diminution from the normal tests of the metal itself.

The class of rod to be used in welding should always be chosen carefully with regard to the class of work in progress and the metals to be connected up.

A very popular welding-rod is that made from Swedish iron, also called the "drawn rod" in some places. It is usually copper-plated to prevent it rusting and is employed, amongst others, for wrought iron and steel piping, constructional steel work, mild steel castings and plate. This gives a very strong weld that is sufficient for a number of purposes, but if still greater strength is desired welders find that by using high-test steel rods they are able to make joins whose tensile strength is about twenty per cent. greater than what is obtained with the drawn rod.

Cast iron welding-rod is very largely used, principally for connecting up grey iron castings which run from large machine parts down to small pieces of almost every kind.

Sometimes the question of expansion and contraction becomes very serious and it is not easy to raise the temperature of the parts to be welded sufficiently to allow for this. In many such cases the problem has been solved by using a welding rod of bronze and in this way completing the join at a very much lower temperature than would be necessary in other circumstances. Welds made in this way, if carefully done, are quite sound and of considerable strength; the method is being increasingly used, especially in America.

It is always as well to buy good welding-strips, for though they may cost more they give better results; the absence of sparking and spitting and the easy level flow of the molten metal all make for good workmanship.

Apart from that, it is much easier to get welds with rods made by really reliable suppliers, and the amount of time saved in doing a job as compared with making a similar weld with a cheap material has been placed as high as twenty per cent. This, in itself, would more than cover the increased cost of good rods, aside from the fact that the work is better.

It is suggested, therefore, that the matter of the quality of the welding-rods used should be closely looked into, and tests made in order that users may have the opportunity of getting the best available. In this way the repetition of unsatisfactory joins will be avoided.

Snagging Wheels

A "Super-Speed" grinding wheel, specially recommended for snagging operations, has been introduced by the Carborundum Co., of Niagara Falls, N.Y., U.S.A.

The wheel is made of "Aloxite" aluminous abrasive bonded with "Redmanol," a synthetic phenol resin which acts as a tough, tenacious bonding agent. They are claimed to run safely at 9000 surface feet per minute.

The super-speed wheels are stated to be open, porous, free-cutting and of great durability. Wheels with arbors of 5 in. diameter or larger are fitted with one or two steel protection rings for added safety.

Pottery and Glassware

Japanese Porcelain and Glass

S. C. Hill & Y. Yamashita, Denison House, George-street, Sydney, are displaying semi porcelain vases, tea sets, coffee sets, also tumblers, goblets, wine glasses, powder bowls and perfume decanters on behalf of Kiku Gumn Ltd., Kobe, Japan. A feature of this firm's products is their elegant appearance which suggests that they are more highly priced than is actually the case. This particularly applies to the tea and coffee ware which is lustre finished with hand painted flowers, birds and rural scenes. The finishing process treatment which this ware undergoes gives it a hard enough surface to withstand crazing.

Continental Chinaware

J. L. Walters Ltd., of 222 Clarence-street, Sydney, are displaying on behalf of Carl Schumann, Arzberg, Germany, a new sample range of china ware comprising fruit and coffee sets and a comprehensive array of teaware. The latter while embodying the best English shapes, bear the decorations for which the manufacturers have been known for a long time. Their standard reproductions of fruit, floral clusters and portraits are incorporated in all their ware whether it be of the cheaper quality or of the well known "Dresden" and it is notable that only the connoisseur is able to differentiate between the colours used for each quality. These samples are on show also at the Melbourne and Adelaide branches.

Bone Chinaware From Staffordshire

Mr. H. E. Uttley, of Margaret House, 282 George-street, Sydney, features a comprehensive sample range of bone chinaware comprising tea, coffee, fruit and supper sets, on behalf of William Lowe, Longton, England. This manufacturer produces a special line of tea-ware on which is imprinted "as supplied to Her Majesty Queen Mary." Until the advent of the new range this teaware could only be procured in one decoration whereas now it is shown in six different patterns of floral themes. The coffee, fruit and supper sets vary from medium to best quality and each has litho fruit, floral, medallion and rural scenes which are depicted in as near to natural colours as it is possible to reproduce. If desired square muffins will be supplied with any of the sets above mentioned. For goods of such high quality the marked prices are exceptionally low, being competitive with those of Continental origin.

Swedish Crystal

Mr. Leslie J. Pain, 209a Castlereagh-street, Sydney, shows a rather large sample range of "Kosta" full crystal from the Swedish manufacturers, De Svenska Kristallglasbruken A/B., Stockholm. Of long standing this firm have gained a reputation for their crystal both as to distinctiveness of cut and consistent good quality both which are sustained by the present galaxy. Vases, compots, powder bowls, water sets, cake dishes, sweets, sugars, creams, sandwich trays, salads, claret bowls, also whisky, champagne, hock, port and cherry sets are only a few taken from the display all exhibiting a brilliancy of colour and deep cutting that arrests the eye. Besides this form of decoration this firm are noted for their intaglio or engraved ware—a line that is well represented. A wide range of cut and engraved table services is further supplemented by a collection of medium grade glassware

which is now being finished with an acid process giving it a bright polish that remains permanently even after years of use in the household.

"Tamsware" From Staffordshire

Mottershead & Phillips, of 52 Carrington-street, Sydney, have an interesting display of new samples from John Tams Ltd., Longton, Staffordshire. A feature of the ware is that the porcelain body is made under five separate patents, a fact that obviates all danger of those fine hair cracks known technically as "crazing." Moreover the ware has the appearance of best bone china, but is stronger and lower in price; while freight charges are also lower owing to the lightness of the material.

"Tamsware" is made up into dinner sets, tea sets, toilet sets and fancy ware of all descriptions, as well as ordinary household and hotel ware. Some very attractive dinner and tea sets are priced at very low figures.

A new line has just been landed in the form of the "Celmor" series of fancy vases and jardinières, the prices again being remarkably low.

The "Tamsware" vases and jardinières are very effectively done, the bodies affording a selection of colours, blues, blacks, greens and so forth, treated with scroll work or figures. Biscuit barrels, teapots, jugs and other articles can be obtained to match.

The white and gold and three gold lines dinner and tea services are hardly discernible from china, but the prices are very much lower.

New Tyne Bridge

British papers, and even some Australian, have given pictures of the new bridge across the River Tyne at Newcastle, in England. Begun in 1925, it had cost approximately £1,250,000 before its opening by King George V. on October 10 last. It is a single span 531 ft. in length, the largest steel arch bridge yet erected in Great Britain. Including the approaches, the bridge is 1254 ft. long and wide enough for tramways and four lines of traffic. Besides serving the main parts of Newcastle and Gateshead, it will form a new link in the Great North Road. The height of the roadway above the water is inconsiderable.

Washerless Tap

A new type of domestic water tap, with which the makers, the London Valve Co. Ltd., have decided to give a seven years' guarantee against leakage, has recently been developed. The object of the invention is to eliminate trouble caused by leaky washers and to provide a durable, scientific water tap. By acting on a flexible cone of special composite mixture with a rubber basis and compounded to withstand high temperature the water seals itself, no washers or seating being used. Since the pressure of the water on the outside of the cone effects the closing, the tightness of the tap is independent of the screwing down load, and the taps are interchangeable for hot or cold water. Repacking, it is claimed, can be carried out while the spindle is in such a position that the tap does not run. Having been tested by the British Waterworks Association and the Metropolitan Water Board the tap has been accepted by them and by other authorities. Each washerless tap is tested by the makers at a hydraulic pressure of 450 lb. per square inch. In addition to the claim that the tap cannot drip, anti-splash properties are claimed, which presumably depend on the flow of the water from the outlet in the form of a converging nozzle.

Publications Received

Blackman Air Heaters

A folder received from the Blackman Export Co. Ltd., of 374 Euston-road, London, N.W.1., describes the Blackman air heaters in flanged and independent sections offered by this firm. All kinds and sizes of buildings can be kept at the desired temperature by means of these heaters. In addition to steam-heated installations, the firm offer electric tempered air units.

A Summer List

For the information of their storekeeping customers, J. S. Kidd & Co. Pty. Ltd., of 410-12 Lonsdale-street, Melbourne, have issued a catalogue covering the principal lines which they can offer for the season 1928-29. It measures 11 x 8½ and runs to twenty-four pages with an eight-page inset devoted to fencing materials and other heavy goods. Illustration is freely used and prices are given with a warning or reservation that these are subject to market fluctuations. Australian as well as British and American manufacturers are represented in this list which is well-arranged and well-printed.

Morris Electric Runways

"Book 385" received from Herbert Morris Ltd., of Loughborough, England, describes that firm's electric overhead runways. The pictures—and a picture appears on every page of the little volume—are reproduced from actual photographs of these runways as installed in different places and for different purposes. Armed with the firm's load-lifting hooks they are seen picking up or setting down all kinds of "portable property." The manufacturers will provide one for any situation and any service.

Noyes Bros. (Melbourne) Pty. Ltd., of 495-501 Bourke-street, Melbourne, are the local agents.

For Sheet-Metal Workers

A copy of their latest stock list has been forwarded by F. J. Edwards Ltd., of 406 Euston-road, London, N.W.1. The issuing firm are well-known as manufacturers of the "Besco" tools and machines for workers in sheet metals, and this publication running to 44 pages 11 x 9 lists some 2500 items of interest to such workers. Many of the machines dealt with are illustrated and prices are given. Second-hand as well as new machines are supplied by the firm.

A copy of this catalogue will be sent on application to any interested firm in Australia or New Zealand. The address is shown above.

Electrical Achievement

A folder received from the Westinghouse Electric International Co., of 150 Broadway, New York, U.S.A., carries a list of "exclusive distributors" of the company's products in forty-three different countries, beginning with Anglo-Egyptian Soudan and ending with Venezuela. In Australia the representatives are the Australian Westinghouse Electric Co. Ltd., of 11 Castlereagh-street, Sydney, and 428 Collins-street, Melbourne, and in New Zealand Turnbull & Jones Ltd., of various addresses and (for lamps and electric ranges), E. J. Hyams Ltd.

The main works of the company are at East Pittsburgh, Pa., and the European office is at 2 Norfolk-street, Strand, London, W.C.

Australian Engineering Standards

From the Australian Commonwealth Engineering Standards Association we have copies of two additional tentative specifications, the one dealing with five ampere two-pin wall plugs and sockets for domestic purposes (without earthing connection), and the other with brass water fittings stop, bib, pillar and ferrule on main taps. As already stated these are tentative or provisional only, and suggested amendments will be welcomed from any interested quarter before the work is finished.

A report of the work done during the first half of 1928 has also been issued. It registers satisfactory progress with a heavy programme.

The headquarters of the association are at Macleay House, 16 College-street, Sydney.

Rodgers' Cutlery

A very fine catalogue devoted to their well-known cutlery in all its forms has been issued by Joseph Rodgers & Sons Ltd., of Sheffield. Using art paper and coloured ink the printers have produced a volume of exceptional attraction. The pages measure 11 x 8 and there are 194 of them now, with opportunity of bringing any other leaves that may be issued by the firm within the rivetted cover.

Following the introductory matter come four divisions or sections (a) table cutlery, (b) pen and pocket knives, (c) scissors and (d) razors. "Table cutlery" here gets a wide interpretation including, as it does, camp knives, butchers' knives and steels and knives for other tradesmen or extra-table purposes. Scores of forms are beautifully illustrated including a variety of cased sets. Something similar may be said of the pen and pocket knives section which is wide enough to include dagger and hunting knives and even tin openers that no pocket could hold or was ever meant to hold. Razors are in wide variety—medium and full hollow-ground ordinaries, singly or in cases, and the firm's safety razor and blades. The latter may be had five and ten as well as six and twelve to the packet.

Every description of silver and plated goods is manufactured by the firm as well as of cutlery. Their "star and cross" trade mark was granted as far back as 1682. To-day they have five different works in Sheffield, their headquarters being at No. 6 Norfolk-street, with a branch in London and agencies all over the world. Since 1887 they have been making their own steel and to-day they claim to be the only cutlers in England making their own stainless steel.

Our copy of a most interesting production is from Noyes Bros. (Melbourne) Pty. Ltd., who with the related company Noyes Bros. (Sydney) Ltd., are Australian agents for Joseph Rodgers & Sons Ltd.

Joy in Work

Says Charles M. Schwab, the American industrialist.

"I have been fifty years in steel—and I have loved every minute of it. Someone once asked me what changes I would make in my life if I could turn back the clock and do it over again, and I replied that I wouldn't change a single minute of it, for I have found joy in life and work all the way through.

"I think one reason I may have done as well as I have is that I have loved my work, and if there were any word I would say to any man it would be that he should love his work or else get into something he does love, for a man can't do his best with a job he doesn't like."

Personal and Social

A Young Lord Mayor

Councillor Harold Daniel Luxton, the new Lord Mayor of Melbourne, is the youngest man and the first returned soldier to hold that position. He is



The Lord Mayor of Melbourne

only forty years of age and has been a member of the City Council since 1919. During the intervening years he has done good work as a member of the Public Works and Finance Committees.

A son of the late Mr. Thomas Luxton, M.L.C., Cr. Luxton was born at Bendigo and educated at the Melbourne Grammar School, where he distinguished himself as a oarsman. In 1907 his late father acquired the well-known hardware business in Melbourne of McLean Bros. & Rigg Ltd., and three years later the equally well-known business of James McEwan & Co. Ltd. Firms and businesses were merged in the premises of the latter and the new company, James McEwan & Co. Pty. Ltd. (as it now is) was controlled by the purchaser and his three sons. Since the father's death in 1911 the sons have held the reins and Mr. H. D. Luxton is now the chairman of directors. In other hands McEwan's goes back to 1852, being one of the oldest businesses in the city. Mr. Luxton is also on the directorate of other companies.

During the Great War Mr. Luxton served in France with the 4th Australian Field Artillery Brigade until the end of 1916, when he was transferred to the Royal Air Force. While co-operating with the infantry from the air his plane was shot down, and he was seriously wounded. He was eventually invalided to Australia and discharged on account of wounds received in action. Since 1919 he has devoted his time to business and municipal affairs.

Appointed to the Directorate

At a meeting of the directors of William Adams & Co. Ltd., in Sydney, on November 13, Mr. H. E. Slater, the manager of their office there, was appointed a director of the company.

Testamentary

By his will the late Mr. James Henry Dodds, formerly managing director of Robison Bros. & Co. Pty. Ltd., Normanby-road, South Melbourne, disposed of property valued at £11,861—realty £2500 and personalty £9361. The estate is left to testator's widow and son.

Parting Presents

Mr. S. G. Hughes recently left the service of James McEwan & Co. Pty. Ltd., Elizabeth-street, Melbourne, to start in business on his own account. He had been thirty-seven years in McEwan's, the later and bigger half of the period as manager of the sporting goods department. Before leaving he was presented with a cheque by the management and a dressing case by his colleagues on the staff.

The Victorian Premier

Sir William Murray McPherson who is now at the head of the Victorian Nationalist Government has many years of public service to his credit. Before entering the Legislative Assembly he had been a commissioner of the Melbourne Harbour Trust and president of the Melbourne Chamber of Commerce. It was in 1913 that an extraordinary election placed him in the Legislative Assembly for the constituency of Hawthorn, where he resides, a seat he has held ever since. Four years later he attained cabinet rank and served as Treasurer for six years. For part of 1923 during the temporary absence of his chief of that time (Mr. H. S. W. Lawson) he was Acting Premier as well as Treasurer. In that year he was made a Knight Commander of the British Empire (K.B.E.). When the Labour Ministry of Mr. E. J. Hogan took office in 1927 he was chosen to lead the Opposition. Now he becomes Premier and in his own government resumes his old position as head of the finance department.



Sir William McPherson

Although frequently referred to—and caricatured—as a Scotsman, Sir William is really a native of the Victorian capital. A son of the late Mr. Thomas McPherson, machinery merchant, he succeeded in due course to the father's business and for some years has been governing director of the company registered to carry it on and extend its operations—McPherson's Pty. Ltd. With headquarters at 554 Collins-street, Melbourne, the company have to-day bolt and nut manufacturing works at Richmond,

machine tool works at Kensington and branches in Adelaide and Sydney.

A man of generous instincts as well as of public spirit, Sir William gives of his means to many deserving causes. In 1924 he contributed £25,000 towards the establishment of an institution which bears the name of his wife, the Emily McPherson College of Domestic Economy.

Death of Mr. William Richardson

Mr. William Richardson, who died suddenly on November 30, aged 66 years, was the proprietor of the business carried on under the firm name of W. Richardson & Co., 101-03 Franklin Street, Melbourne. The firm are manufacturers of spouting, ridging, baths, ventilators and air pipes, as well as brass-founders and finishers. They are also iron merchants, stocking galvanised iron and other materials, together with plumbing and sewerage supplies in metal and earthenware. Established in 1884 as Miller and Richardson, the firm-name was changed to W. Richardson & Co. in 1892, when Mr. Miller retired.

The late Mr. Richardson leaves a widow and family of five—one son and four married daughters. The business will be carried on by the Trustees on behalf of Mrs. Richardson.

Death of a New Zealand Gunsmith

The death is reported from New Zealand of Mr. William Henry Tisdall. He died suddenly at Christchurch from heart failure, aged sixty-five years.

A son of the late Mr. W. H. Tisdall, the well-known gunmaker, of Birmingham, the deceased came to New Zealand in 1887 and established the sporting goods business now carried on at Christchurch, Wellington and Hamilton by the registered company W. H. Tisdall Ltd.

The late Mr. Tisdall was well known not only in business circles, but also as a fishing and shooting enthusiast and a keen follower of the new aquatic sport of outboard motor-boating. During his long residence in the Dominion he had always been interested in public affairs and while he lived at Wellington he was for some years a borough councillor and mayor of Karori.

Death of Mr. Alfred Crane

By the death of Mr. Alfred Crane, a director of G. E. Crane & Son Ltd., Sydney, a link in a partnership embracing four brothers and extending just over fifty years has been broken. It also removes a well known and highly respected member of Sydney's business community. Mr. Crane died on November 9 at his residence in Burwood aged 74 years, and by a coincidence this date was the fifty-second anniversary of his wedding.



Late Mr. A. Crane

Born at Redfern, Sydney, and educated at Fort-street School and St. Pauls, the deceased was the third son of the late Mr. George E. Crane, and at the age of 14 years entered his father's business which was that of general merchant, building supplier and manufacturer. For eight years he had been an alderman of the Ashfield Council

and had occupied the mayoral chair of that district. He was interested in Star Bowkett Societies and was a director of Ashfield No. 1, which was probably the first Society formed in the State. Actively interested in church work he was a trustee of the Church of England section of the Rookwood Cemetery. He married a daughter of the late Mr. Wm. Henson, M.L.A., and leaves a widow, two sons and four daughters.

The funeral was attended by a large circle of friends and also by many representatives of the business community, the service being conducted by the Rev. Fred Tugwell, assisted by the Rev. Chas. Crane, a brother of the deceased.

New Uses for Aluminium.

(From an English Paper.)

Apart from the wide use of aluminium in the chemical industries as a metal for the construction of plant of various shapes and sizes, new applications of aluminium and its alloys are being found almost daily. One such use is in the construction of railway carriages. The Pennsylvania Railway, for instance, has recently built passenger carriages in which all the metal used above the frame is either pure commercial aluminium or an aluminium alloy. As a result a considerable saving in weight is effected, amounting to approximately six tons a carriage. Another American railway has built a similar carriage in which aluminium is used extensively, the body weighing only about five tons against eleven tons for a steel coach, or 470 lb. per passenger against 900 lb. for the steel coach. In another case a large number of carriages, in which a considerable part of the body is of aluminium, have been in satisfactory service for over two years.

Recently a German engineer has perfected a method of using aluminium in concentric sheets for lagging steam and hot water pipes. These sheets are lapped round a distance piece and heat is retained in the pipes by the layers of air contained between the concentric sheets. It is claimed that such a form of lagging weighs only from one-tenth to one-twentieth of the usual materials, and that there is almost no loss of heat due to storage in the lagging where the pipes are used intermittently. Corrosion, heat, vibration, and damp are successfully resisted, and it is claimed that the system is no more costly than the usual methods of lagging.

The obvious advantage of aluminium, that is, weight reduction, is being very successfully applied in the switchgear industry in Great Britain, especially in the case of parts which must be accelerated rapidly and brought to an abrupt standstill. An example of this is found in the case of large, quick-break switches, where the use of aluminium castings is superseding high tensile bronze. It is found that the aluminium stands up successfully where the bronze fails, due to the fact that the light weight of the aluminium reduces the forces brought into play during the operation of the switch. End brackets for electric motors and cooling-fans for motors are now being made very successfully of cast aluminium.

In the gas industry, the immunity of aluminium from corrosion by the majority of vapours encountered has led to its adoption for various parts. Gas lamp parts are now widely made in this metal, and one large public authority has used over 2000 lamps and reflectors for the past two years with success. On the larger coke-oven and by-product undertakings aluminium is finding wide applications, and the various pumps, gauges, valve fittings, electrical conductors, and switchgear in and about the works are found to give longer and more efficient service when made of aluminium or its alloys.

Interstate General News

Coupons Again Challenged

"That the Victorian United Retailers' Council, believing that the use of coupons and prizes and so-called free gifts in connection with the sale of goods increases the cost of commodities and constitutes unfair competition in trade, requests the State Government of Victoria to introduce legislation on the lines of the South Australian Anti-Trading Stamp Act."

The foregoing motion, which explains itself, was passed at the annual meeting in November of the body mentioned, a body representing the various traders doing business with the public.

Co-operative Society or Public Company?

Early next year shareholders of the Civil Service Co-operative Society of New South Wales Ltd. will have an opportunity of saying whether the society shall be registered under the Companies Act and its shares listed on the Stock Exchange. For the first half of the present year the society's operations showed a loss instead of a profit and neither dividend nor bonus to purchasers could be paid. This created dissatisfaction and a committee of experts was appointed to investigate the financial position and management of the society. When the adjourned meeting of shareholders was held on November 30 to receive the report it was intimated that the committee required further time. They desired to watch the effect of certain alterations and economies in the conduct of the business and the establishment of some new departments. It was intimated that Mr. D. C. McLachlan (chairman) and Mr. W. J. Kessell had retired from the directorate. The other four directors, Messrs. T. W. Garrett, L. W. Hudson, G. Valder and E. J. Young, were re-elected, and notice was given of a proposal to reduce the number of directors to four.

Notes From Canterbury, N.Z.

There is little building activity in Christchurch at present, and the structures going up are not of any great size. The National Insurance Co.'s building in Hereford-street, now nearing completion, is of brick and concrete rising four storeys high and costing about £8000. Good progress is being made with the Bank of Australasia in Cashel-street. Several big theatre and picture show buildings are to be erected in the near future. A number of shops are being built, but not very many residences in the city or suburbs.

Recently the Arbitration Court heard an application by the New Zealand Ironmasters' Industrial Association of Employers for a comprehensive or Dominion award to take the place of the separate awards now in force. An award was made covering the three skilled trades and excepting the metal workers' assistants.

At the annual show of the Christchurch Agricultural and Pastoral Association large and comprehensive exhibits of agricultural implements and machinery were presented. No previous show at Addington attracted such a variety of articles or so many of them. The various exhibitors are said to have done a very satisfactory business.

The tenth motor display in Christchurch during the currency of the Agricultural Show was attended by record crowds of sightseers and purchasers. Promoted by the Canterbury branch of the New Zealand Motor Traders' Association, this covers motor vehicles and accessories, with the addition this year of radio stands.

Six electric locomotives for use on the Christchurch-Port line have arrived in Lyttelton by the S.S. "Hereford," and except for two or three small parts, will be landed completely assembled. Each engine weighs 50 tons with a speed possibility of 40 miles per hour and a gross haulage capacity of 600 tons. A line voltage of 1500 volts direct current will be utilised to drive them. The electrical equipment is an English "all electric" camshaft control, the braking being on the compressed air principle. The two compressors, supplied by the Westinghouse Airbrake Co. Ltd., are operated by 1500 volts direct current with a pressure of 28 cubic feet per minute. The locomotives were built by the English Electric Co. Ltd. to the specification of the New Zealand railways.

Trade of the Commonwealth

The Quarterly Summary of Australian Statistics (September, 1928), gives the value of the principal articles of merchandise imported during the September Quarter, 1927 and 1928. Following are the lines of direct interest to our readers:—

	September 1927	Quarter 1928
Cordage and Twines, excluding Metal		
Cordage	£122,461	£53,257
Fats and Waxes, etc.	67,290	64,348
Oils—		
Kerosene	238,014	318,175
Linsed	21,378	18,750
Lubricating (Mineral)	280,126	286,915
Petroleum Spirit	1,513,192	1,522,322
Turpentine	59,488	18,618
Other	309,197	321,438
Electrical Machinery and Appliances—		
Batteries and Accumulators	255,367	194,010
Cable and Wire, covered	396,233	294,404
Dynamo Electric Machines	327,995	195,339
Lamps, Filament for Lighting and Heating	159,538	119,636
Telegraph Instruments, etc., Telephones and Telephone Switchboards, etc.	132,438	105,363
Other	700,561	517,403
Implements and Machinery (Agricultural, Horticultural, etc.)	281,161	205,032
Metal-working Machinery	136,059	70,193
Motive-power Machinery (except electric)	782,412	544,659
Printing Machinery	110,087	73,306
Sewing Machines	160,832	91,815
Yarn-making and Textile-making Machinery	117,394	87,340
Other Machines and Machinery	1,056,905	753,068
Alloys	72,713	56,909
Bolts and Nuts, Rivets and Washers	69,876	42,022
Iron and Steel—		
Bars, Rods, Hoop, Ingots, etc., Beams, Channels, Girders, Joists, etc.	398,548	146,700
Pig and Scrap	193,217	62,227
Pipes and Tubes	23,130	13,185
Plate and Sheet—	385,742	300,091
Galvanised:		
Corrugated	625,323	221,721
Flat	215,162	98,255
Plain	491,616	230,763
Tinned	324,907	191,075
Rails, Fishplates, Fishbolts, etc.	82,142	4,229
Wire	124,002	111,154
Lamps and Lampware	112,339	99,129
Plated Ware and Cutlery	227,418	210,289
Tools of Trade (not being Machines)	276,745	223,918
Other Metals and Metal Manufactures	1,144,580	885,575
Cement (Portland)	15,599	22,054
Crockery and other Household Ware	218,108	175,221
Glass and Glassware	311,618	254,789
Other Earthenware, Cements, China and Stoneware	111,616	82,745
Brushware—		
Vacuum Cleaners (Household)	60,007	50,245
Other	80,860	60,169
Grand Total	£41,876,166	£32,412,159

Commonwealth Tariff Decisions

The following decisions of more or less interest to the hardware trade have been made during November. By way of explanation, it should be mentioned that the double number on the left of each entry represents the tariff decision number, while the number to the immediate right is the tariff item, and the date following (12/9/28, and so on) the date on or from which the new decision took or takes effect:—

Electrical Appliances and Materials—		
28/1006 Testing Apparatus, Meter—These apparatus are equipped with a transformer and rheostat to provide an adjustable (variable) current with which to load meters subject to test. (By-law No. 1429.)	415 (a)	12/9/28
Lamps and Lampware—		
28/1008 Signalling Apparatus, Marine and Traffic Signalling Apparatus of Marine type, automatic, viz.:—	415 (a)	26/7/28
(a) Flashers, comprising pressure regulator, flashing mechanism and burner stand with burner.	(2)	
(b) An apparatus for automatically controlling and extinguishing a light during daylight.		
(c) Lenses and reflectors for flashers.		
(By-law No. 1431)		
Note.—T.D. 28/454 and the reference to Signalling apparatus, marine, automatic, etc., in By-law No. 47, and in Consolidated By-laws, page 119, are to be cancelled.		
Brushes, Brooms, Etc.—		
28/1027 Artists' Brushes of Hog-hair	381(f)	12/11/28
Felt—		
28/1028 Tarred, for lining cases for packing galvanised sheets, under security. (By-law No. 1448.)	415 (a)	4/5/28
Jumpers—		
28/1029 Sometimes known as Jumper Drills for punching holes in brick or stone walls for plugging purposes.	208(a)	12/11/28
Note.—The reference to Jumpers, etc., in Consolidated By-laws, page 39, in By-law No. 28, and in Guide, page 169, is to be cancelled, but any such Jumpers as were in direct transit to Australia on 12th November, 1928, may be admitted under Tariff Item 219. (By-law No. 1449.)		
Machinery, Machines, Etc.—		
28/1030 The reference to Oil-making Presses (continuous) in Consolidated By-laws, page 20, in By-law No. 25, and in Guide, page 217, is to be cancelled, but any such presses as were in direct transit to Australia on 12th November, 1928, may be admitted under Tariff Item 174. (By-law No. 1442.)	..	12/11/28
Wire—		
28/1034 T.D. 25/501 and the reference to Tinned Iron and Steel Wire for use in the manufacture of Wire Matresses (under security) in Consolidated By-laws, page 104, and in By-law No. 71, are to be cancelled, but any such wire as was in direct transit to Australia on 12th November, 1928, may be admitted under security under Tariff Item 404. (By-law No. 1445.)	..	12/11/28
Anodes—		
28/1046 Copper	208(a)	19/11/28
Nickel		
Note.—The reference to Anodes, etc., in Guide, page 8, as amended by T.D. 23/854, and T.D.'s 23/854 and 24/346 are to be cancelled.		
Electrical Appliances and Materials—		
28/1047 Transformers, viz.:—		
Current	179(d)	19/11/28
Potential	(2)	
Note.—T.D. 23/456 is to be cancelled.		
Machinery, Machines, Etc.—		
28/1048 Grinding and Sharpening Machines—		
Rail Grinding Machines	176(f)	19/11/28
Note.—The reference to Metal-working Grinding and Sharpening Machines in By-law No. 25 and in Consolidated By-laws, page 17, is to be amended by adding Rail Grinding Machines to the list of machines excluded from admission under		

Tariff Item 174, but any Rail Grinding Machines which were in direct transit to Australia on 19th November, 1928, may be admitted under that Tariff Item. (By-law No. 1453.)		
Machinery, Machines, Etc.—		
28/1049 Signalling Appliances (Electric), for Railways, viz.:—Train Stop Mechanisms—		
Motors	179(d)	19/11/28
Motors	179(d)	(1)
Balance	176(f)	
Motor operated Signal Mechanisms—		
Motors	179(d)	(1)
Balance	176(f)	
Note.—T.D.'s 23/79 and 24/742 and the references in Guide, page 225, to Motor or Solenoid operated Signal Mechanisms, and Signalling Apparatus, Electric, Railway, etc., are to be cancelled.		
Bags, Baskets, Boxes, Etc.—		
28/1061 Box, Money, being a toy tin box with a money slot.	208(a)	26/11/28
Note.—The reference to Box, Money, etc., in Guide, page 14, is to be cancelled.		
Brushes, Brooms, Etc.—		
28/1069 Gramophone Brushes—Being small hair brushes with special (inseparable) clip to fasten the brush to the reproducer, imported separately.	381(f)	26/11/28
Note.—The reference to the above in Guide, page 42, is to be cancelled.	(4)	
Cabinets—		
28/1070 Filing	305(a)	26/11/28
Cellars, Salt—		
28/1073 Oak, Electro-plated Mountings, Porcelain Container.	197(a)	26/11/28
Note.—The reference to Cellars, Salt, Oak, etc., in Guide, page 52, is to be cancelled.		
Clamps—		
28/1074 Glueing, Palmer's Patent—	..	26/11/28
The classification and statistical number of "Truck" appearing in the reference to Clamps, Glueing, Palmer's Patent, etc., in Guide, page 61, are to be amended to read "Tariff Item 630. Statistical No. 835."		
Cleaners and Cleansers—		
28/1075 Aluminium Cleaner and Polisher, being one piece of soap and six pads of steel wool enclosed in a carton—		
Soap	94(b)	28/11/28
Steel Wool	216	
Nyall's Straw Hat Cleaner in packets for household use. (This is oxalic acid).	281(l)	(2)
Note.—T.D. 23/537 and the reference to Nyall's Straw Hat Cleaner, etc., in Guide, page 62, are to be cancelled.		
Coverings—		
28/1077 Pipe and Boiler—		
Lagging, Magnesia Plastic	374(d)	26/11/28
Mica and Asbestos (combined)		
Note.—The reference to the above in Guide, page 76, are to be cancelled.		
Electrical Appliances and Materials—		
28/1084 Tubes (sometimes referred to as Vacuum Tubes) for use in the manufacture of Arresters, viz.:—	404	15/12/27
Current, Lightning and Surge. (By-law No. 1466.)		
Machinery, Machines, Etc.—		
28/1089 Balancing Equipment, Overhead, for use with portable hand tools. (By-law No. 1459, Miscellaneous.)	174	18/1/28
Machinery, Machines, Etc.—		
28/1090 Bushing, metal, for internal combustion engines, imported separately.	178(d)	22/11/28
Note.—The references (2) to Bushings, etc., in T.D. 24/156 and the reference to Bushings, etc., in Parts Order No. 6 are to be cancelled (Parts Order No. 21.)		
Machinery, Machines, Etc.—		
28/1091 Meters, Station, Gas. (By-law No. 1460, Miscellaneous.)	174	5/11/28
Note.—The reference to Meters, Cylindrical Station, etc., in Consolidated By-laws, page 30, in By-law No. 25, and in Guide, page 211, is to be cancelled.		
Machinery, Machines, Etc.—		
28/1092 Motors Electric not exceeding $\frac{1}{2}$ h.p. imported with and for use with Duplicators. (By-law No. 1461, Electrical.)	174	25/6/28

Machinery, Machines, Etc.—		
28/1093 Motors, Electric, d.c., not exceeding $\frac{1}{2}$ h.p., including driving pinions and geared pulleys, for use with linotype machines, under security. (By-law No. 1462, Electrical.)	174	26/10/28
Machinery, Machines, Etc.—		
28/1094 Pins, Metal, Gudgeon or Wrist, for internal combustion engines, imported separately. Note.—The reference to Gudgeon or Wrist Pins in T.D. 24/156 and in Parts Order No. 6 is to be cancelled (Parts Order No. 21).	178(d)	22/11/28
Oils—		
28/1095 Compounded—The Seventh Prefatory Note to the Customs Tariff shall not apply to Compounded Oils when the application of the said Prefatory Note would result in the classification of such Oils at rates lower than those provided for under Tariff Item 229 (1) (Minister's Direction).	..	26/11/28
Wire—		
28/1098 The reference to Tinned Mattress Wire for use in the manufacture of Lace Web Cushions, under security, in Consolidated By-laws, page 88, and in By-law No. 71, and T.D. 28/367 are to be cancelled, but any such Wire as was in direct transit to Australia on 26th November, 1928, may be admitted, under security, under Tariff Item 404. (By-law No. 1469.)	..	26/11/28

Agents and Agencies

Mr. Harold R. Richardson, of 181 Clarence-street, Sydnev, who has represented Jas. Cartland & Son Ltd., Birmingham, brassfounders, for the past two years, relinquishes that agency on December 31.

Mr. James Henderson, of 204 Clarence-street, Sydney, has been appointed Australian representative for F. Winkle & Co., Stoke-on-Trent, England, manufacturers of earthenware dinner and toilet sets and fancies.

Mr. W. A. Johnston, who has been appointed New Zealand representative for Henry Disston & Sons Inc., Philadelphia, U.S.A., has his office and sample room in Customs-street, Auckland, where he has a range of saws, files and other tools on view.

Mr. Leslie J. Pain, Bathurst House, of 209a Castlereagh-street, Sydney, has been appointed Australian representative for Manufacture Generale Franc Comtoise de Secateurs, Pesme, North France, manufacturers of secateurs and pruning shears.

E. H. Collis Pty. Ltd. of Danks Building, Bourke Street, Melbourne, and Beaucaire House, York Street, Sydney, have been appointed Australian and New Zealand representatives for Bache Bros. Ltd., Stakenbridge England, manufacturer of "Drew" brand forks and spades.

Mr. Horace Woollett, of Woollett & Ross, 119 York-street, Sydney, recently returned from a visit to England and the Continent, where he secured among others the following new agencies:—

Hermann Kohler A-G., Altenburg, Germany (sewing machines).

Associated Manufacturers' Co. (London) Ltd., King's Cross, London (lawn mowers).

Celebrity Gramophones Ltd., Bermondsey, London (talking machines).

Mr. Victor H. Moodie, of McEwan House, Melbourne, has been appointed Victorian representative for the following manufacturers:—

Kavanagh & English Ltd., Sydney.—("Kande" kitchenware.)

Malley's Ltd., Sydney.—(Builders' hardware.)

Scott Bonnar Ltd., Adelaide.—(Range cocks.)

Lowe Bros., Sydney.—(Hinges, bolts, etc.)

Abrams Brooms & Brushes Ltd., Sydney.—(Toilet, household and painters' brushware.)

Noyes Bros. (Sydney) Ltd., and Noyes Bros. (Melbourne) Pty. Ltd. have taken over the Sydney and Melbourne offices of Crompton, Parkinson Ltd., and, from November 1, will act as sole selling agents throughout Australia for the English company, Crompton, Parkinson Ltd., while continuing their sole agency for the Australian company, henceforth to be known as Crompton, Parkinson (Australia) Ltd. It was only last year that the two English companies, Crompton & Co. Ltd., of Chelmsford, and F. & A. Parkinson Ltd., of Guiseley, joined forces, as Crompton, Parkinson Ltd., and, before long, the Australian branches took the same name. The subsidiary company, Crompton, Parkinson (Australia) Ltd., of Five Dock, Sydney, will manufacture the firm's A.C. motors in association with the British works. Both in Sydney and Melbourne the senior members of the Crompton, Parkinson staffs have joined Noyes Bros.

How Canada Profits From Tourists

The expenditure of tourists from the United States in Canada is about fifteen times as large as before the war. About 3,000,000 cars cross the line from the United States during the year, and 8000 to 10,000 of these cars remain more than a month. Aside from the direct expenditure of these visitors, according to the Royal Bank, Canada also receives the less tangible benefit of having her problems better understood abroad, and in the long run there can be no doubt that such a number of visitors will tend to encourage immigration and the inflow of foreign capital for industrial enterprises. Catering to those who vacation in the Rockies, along the lakes and rivers of central Canada or at the seashore is becoming an industry of no small importance. The 1927 tourist season was exceedingly profitable. The Highways Branch of the Department of Railways has estimated that during 1927 such visitors spent about 275,000,000 dollars in Canada as compared with 200,000,000 dollars in 1926 and 140,000,000 in 1924. The expenditure in 1928 is expected to show a proportionate increase.

New Tractor

A new industrial tractor is being placed on the market by the J. L. Case Co., of Racine, Wis., U.S.A., which is intended for use in road building and maintenance work and for any other purpose for which reliable and dependable power is required. Because much of the work of such a tractor is in close quarters, this machine has been built in a low, compact form, and has great tractive power, being able to ascend the steepest gradients and negotiate bends which would be beyond the scope of a larger machine. Actually it has been designed so that it will turn completely in a radius of under ten feet.

The new machine is rated at 12 h.p. on the drawbar and 20 h.p. on the belt pulley, with surplus power for emergencies. Equipped as it is with a belt pulley, it is always ready for a belt job as well as a drawbar task. A quick-acting, throttling governor regulates the power and the gearing is strongly and efficiently designed. The weight of the tractor is so divided that approximately two-thirds of it is borne by the rear wheels. These are cast hollow so that if needed in very hard going they can be filled with sand.

According to the manufacturers, the tractor is so simple that anyone, even without the slightest experience of motor driving, can operate it successfully. Any adjustment that may be necessary can be easily understood and made. All necessary controls are within easy reach of the driver, and the steering is so designed as to be particularly light, without any tendency for the wheels to jerk out of control.

Australasian Metal Markets

All prices are quoted for approved brands, duty and over charges included.

For English prices, see The Month's Cablegrams on page 405

Sydney, December 4, 1928.

The month just closed shows little variation in prices, and stocks had attention generally. At this time of the year business has a tendency to become quieter, and quantities purchased are smaller than usual. Trade has been very satisfactory, however, and some parcels changed hands at ruling rates. There has been a pronounced shortage of plaster and whiting, and turpentine and resin were also reported short in stock. Requirements in builders and varnish manufacturers requisites were in demand and stocks were accordingly reduced. The dry conditions of the pastoral and wheat areas has affected the trade which was anticipated, but it is thought business for several lines will be written although later in the season than usual. Little speculation has been noted amongst merchant houses in merchandise for interhouse trade, and general distribution of shelf goods has therefore been given most attention. There is quite an assured tone about the building trade, and manufacturers of most products report satisfactory business. In metals and heavy hardware the regular trade has shown no disposition to slacken, and factories generally report a healthy turnover. Jute prices varied slightly while some short periods of activity were noted, but it has been a quiet month in that section generally. Suburban trade showed good returns, and cash business has been satisfactory all round; suburban storekeepers in a small way have had a good month.

Auckland, November 21, 1928.

Business here is on the quiet side and no doubt the general elections is to an extent responsible for somewhat unsettled conditions. Booking for forward delivery on next month's account has not shown much eagerness, but a good deal of optimism is exhibited in the country districts and distributors are looking into stocks in preparation for the summer trade. A particularly good dairy season is expected to continue and the opening of the wool sales is producing a hopeful feeling. While hardware houses report some improvement with farming orders, there is still a lack of building orders that usually come in during the spring. The prosperous condition and outlook of our primary industries is an indication that business should be good, but there is a general feeling of disappointment that it is not already better. The explanation is that until the immense proceeds of export products are actually in circulation, the trade of the Dominion will not really reflect its undoubtedly strong position. It is contended that money does not do much good until it circulates, but that when it finds its way into developments of farming enterprises, for which land values are now sufficiently stable, it will bring in its train a great activity in business. Meantime any extra trade is simply in anticipation of Christmas requirements. Prices of all lines are steady with the exception of ingot tin which has advanced to 2/10 per lb. since our last report.

Christchurch, November 20, 1928.

At time of writing Christchurch is just recovering from the throes of a very strenuous Parlia-

mentary election and on everyhand in hardware and other circles the topic of discussion is "What is going to happen next, and what effect will it have on our business?" Undoubtedly the Reform Government have had a serious reversal and while this is evidently a result of the promise of easy money from the United Party, the opinion is expressed that Mr. Coates represents safer finance than Sir J. G. Ward, with his proposals for borrowing seventy millions of money. Business has been very much brisker this month, the N.Z. Cup and Agricultural Show bringing to the city crowds of visitors with money in their pockets. The near approach of Christmas is also helping to make the shops busy and already a certain amount of holiday business is being done. There is unfortunately still a certain amount of unemployment, but the

NEW ZEALAND PRICES

	Duty.	Auckland. Nov 21	C'church Nov 20	Dunedin. Nov. 14	Wellington Oct. 19
IRON—					
Bar—		£	£	£	£
English	Free	20	22/	21/	21/
Shoeing		22	23/	21/	21/
Steel		14 10/ to 20	20	22/	15/ to 21
Pig		7	10/6	10/6	9/- to 10/-
Plate		20 10/	24/	25/	22/
Hoop		21/6	25/6, 37/6	30/	25/ and 35/
Sheet, Blk.		21 10/, 22 10/	24/6	24/	22/6
to 20-g.		23 10/	26/6	26/	24/6
22 & 24-g.					
Galv. Cor.—	2/-		27/6 Build'rs	28/	26/
First		26	24	26/	25/
Second		24	25/-		
Local		26			
Do., Plain	Free	28, 29/ 0/	29/6, 32/	32, 34, 36	45/ and 50/
24 & 26-g.		50%	47½% off	42½	50% off
Pipe - Galv.	Free	60%	50% off	50% off	
Black					
Wire—					
Galvd.		15/6, 18/-	16/	16/	17/ to 18/
Black		15/6	16/	15/	
Barbed		19 10/23 10/	21/-	21/	21/ to 22/
Nails	2/4-c	19/-	20/	22/	21
" N.Z.		19/-			22
Lead—Pig	Free	31 10/	33/-	21/	32
" Sheet		34, 10	34/-	34/	37/
" Shot	10/	75/	75/	80/	75/
Tin—Ingot	Free	2/10	2/6	2/5	2/8
" Plates		27/6	40/	40/	37/6
Zinc - Sheet		7½d. lb.	9d. lb.	8½d.	7½d
Quicksilver			6/6lb		
Cement—					
Imported	1/-cwt.		28/6 cask		
Local bag		5/5	7/-	6/-	5/11
Slates	Free				
P. of Paris		24/-	30/-	28/-	27/
White Lead	6/-cwt.				
Best		54/	56/	56/-	58/
Second		53/			57/
Bist. Powder	Free	1/8	2/-	1/7	1/8
Rope—	20%				
Manilla, Star		106/	106/	111/	111/
" O.		102/	102/	107/	107/
Flax, N.Z.		79/ 86/	86/	88/	88/
Corn sacks	Free				
44-in. . . . .		...		12/9½	12/5½
46-in. . . . .		...	12/9	12/8½	12/4½
48-in.		13/6	13/3	13/2½	12/11
Woolpacks					
Full	Free	5/3	5/3	4/6	5/3
Oils—					
Line'd, raw	6d.	5/2	N.Z. 5/- Eng 5/3	5/2	5/
Castor	Free	5/-	5/3	5/5	5/6
Colza		7/9	8/	8/-	7/9
Kerosene		13/9	14/9	14/6	13/9
Turpentine		5/3	5/6	5/6	6/6

City Council's big roading scheme is due to start any time now and this with the opening of the various freezing works should absorb most of those out of work. The farming community in Canterbury have benefitted by the recent copious rains and there is every sign of a very prosperous harvest. There has been a steady demand for scythe blades, hay rakes, lawnmowers, garden rollers, and all the usual gardening tools, including Dutch hoes, spades, trowels and forks. Owing to the present slackness in the building trade, corrugated iron, wire nails and other builders' requisites are in ample supply. Prices as in last month's report are being well maintained with the exception of sheet lead, ingot tin and castor oil which have been reduced slightly.

Dunedin, November 14, 1928.

Trade in general has not yet shown the activity so long expected. Doubtless the late severe weather has hindered the carrying out of many contracts at present maturing. With the approach of the festive season, however, business may be expected to improve. Retailers have been complaining of slackness and wholesalers are in the same boat. Whatever it may be with trade citizens are always able to support the film industry, another opening for which is reported to be in contemplation. The railway works at South Dunedin are still installing several of the latest innovations in the machinery department. A recent addition now at work is capable of raising any locomotive engine from the surface to any required height or position desired, with the easies of manipulation. To-day the city is in the throes of a triennial election. All business places are closed for the afternoon and only one topic obtains—which of the three parties offering is to be at the top of the poll? Regarding latest quotations, galvanised corrugated iron has advanced to 28/- for first and 26/- for second, while plain rules at 31/-, 33/- and 35/-. Galvanised pipe has advanced to 45/-. Plaster of Paris has been reduced from 28/- to 26/-. Best white lead is now quoted at 57/-, manila "Star" rope is reduced from 111/- to 106/- and "O" from 107/- to 102/-, while N.Z. flax is quoted at 86/-.

Brisbane, November 30, 1928.

November business has not been up to the average of previous years. Heavy hardware has met with a fair demand, but merchants report business on the small side. Prices are unchanged and stocks generally good. Bulk lines have been just fair, no doubt being affected by the weather. Stocks are on the heavy side, merchants apparently loaded up in anticipation, but conditions were against them. Prices are unchanged. Pastoral supplies have been moving freely, but orders are on the small side. Fencing wires have received a fair demand, but stocks are still heavy with prices unaltered. Woolpacks and cornsacks are now on the slow side, although there was a fair demand at last report. Builders' supplies have been on the quiet side, and there are now only limited contracts for large buildings in hand. Cement has done well, receiving a deal of attention and some fair parcels changing hands. Carbide has been moving well for country buyers, with prices unchanged. Crockery and glassware have sold well, but merchants are holding strong and would be glad to still further unload. Prices are steady. Paints and oils have eased a little, and most contracts will be well finished in time for the breaking up before the holidays.

Adelaide, December 1, 1928.

Although in some instances quite satisfactory business is reported, the demand for hardware lines, generally speaking, continues to be slow. Advances

in the prices of English galvanised tube brought about a firmer tone in the market for this item. A great deal of activity has been displayed by merchants in securing whatever spot stocks are available and in purchasing shipments now on the water. A few of such transactions noted were:—20,000 ft. 2 in. at 70/- per hundred feet; 10,000 ft. $\frac{1}{2}$ in., 61½ per cent. off list; 4000 ft. 1 in. at 60 per cent. off list; 15,000 ft. $\frac{3}{4}$ in., 2½,000 ft. 1 in. and 5000 ft. 1½ in. at 62½ per cent. off list; and 3000 ft. $\frac{1}{2}$ in. at 60 per cent. off list. It is estimated that well over 120,000 ft. of galvanised tube was bought by Adelaide firms ex store or ex wharf during the closing fortnight of the month. Black tube did not meet with the same demand and only a few isolated sales to merchants were noted—the largest being a parcel of 2000 ft. of 2½ in. at 68½ off list. Sales to merchants of other lines, such as mild steel, wires, netting and g.c. iron were very few and then only for small lots to fulfil orders on hand. A parcel of three cases of "Arrow" carbon black was sold inter-house at 10½d. per lb delivered. A 35 box lot of tinplates 28 x 20 I.C. (Lydbrooks) changed hands at 46/- ex store. The only alteration recorded in the price list was that of linseed oil.

Melbourne, December 4, 1928.

Little or nor improvement in business can be reported. Merchants show no tendency to purchase heavy goods except in small quantities, although at this season of the year many shelf lines find good demand, and this side of the trade gave better results. With the prevailing slackness there is a downward movement noticeable in steel and iron products generally. The following transactions in fencing materials are reported: Wire netting in parcels of five miles: 36 x 1½ x 17 at £33/15/-; five miles 42 x 1½ x 17 at £39/10/-; galvanised wire No. 6, two tons at £19; 5 tons No. 8 at £15/17/6; 3 tons No. 10 at £16/10/-, and 10 rolls 36 x 4 x 16 at 22/- per roll. Steel and iron in sheets and bars sold in small to moderate quantities only, at prices from 10/- to 20/- per ton lower than last report. Sales noted were five tons black steel sheets, 6 x 3 x 22 and 24 gauge assorted at £24 per ton; 5 tons round mild steel $\frac{3}{4}$ in. at £15; 5 tons steel angles, assorted sizes at £17 basis; and another parcel of angles 1½ x 2 x $\frac{1}{2}$ in. at £19/10/-. Girder plates, 10 and 12 in. by $\frac{3}{4}$ in. brought £18. Iron tubes also showed a lower tendency during November. A few lines changed hands, galvanised pipes approximately 5000 ft. each of $\frac{1}{2}$ in., 1 and 2 in. selling at discount of 60 per cent, while 2 in. black changed hands at 67½ per cent. off list. G.C. iron moved a little better last month. An indication of the market may be gained from purchases of 10 ton lots, which found buyers at £23/5/- for 26 gauge assorted lengths. This was an English brand. I.C. coke tin plates 28 x 20 were slightly less at 45/6 per box nett (112 sheets). Parcels of ingot tin sold during November at £230, £235 and £245 per ton. Other metal products which may interest the trade were 50/50 solder, of which several sales were noted at 1/4½d. per lb. for 5 cwt. lots; wire nails, 10 tons at £15/10/- per ton basis, and a line of 500 pairs of steel butt hinges changed hands at 3/3 for 3 x 3 in. and 7/6 for 4 x 4 in. (per doz.). Linseed oil was in fair demand, although few large parcels were actually sold. In 25 case quantities raw oil brought 4/2 and boiled 4/4 per gallon. It is reported that the well-known British firm of Blundell, Spence & Co. have arranged with the Australian company of Meggitts Ltd. to manufacture on B.S. formulae for the Australian market. This should show a considerable saving in shipping and duty charges. Buyers were in the market here and there for 400 gallon square iron tanks, which were found at 75/- each. A sale of bluestone was observed—2 tons at £36.

The Month's Cable-grams

Copper, Tin, and Silver.—The following table shows the quotations at the undermentioned dates, compared with those of the corresponding periods last year:—

Date	Copper Electrolytic Per Ton		Tin Standard Per Ton		Silver Standard Per Ounce	
	1927	1928	1927	1928	1927	1928
Oct 30	£ 62½-62¾	£ 74½-75½	£ s. d. 261 12 6	£ s. d. 227 7 6	d. 26½	d. 26½
Nov 5	63-63½	74½-75	259 12 6	229 8 9	26½	26½
.. 12	63½-63¾	74½-75½	258 8 9	230 13 9	26½	26½
.. 19	63½-64½	74½-75½	262 13 9	230 8 9	26½	26½
.. 23	64½-64¾	74½-75½	264 1 3	235 6 3	26½	26½
.. 29	74½-75½	74½-75½	268 2 6	239 7 6	26½	26½
Dec 4	65½-66½	74½-75½	269 2 6	239 2 6	26½	26½

The stocks of tin in the United Kingdom at the end of November were 21,431 tons, the deliveries for the month 3981 tons, the quantity on spot 1609 tons and the quantity afloat 3857 tons.

Lead.—In the London market soft foreign lead on spot has been quoted as follows:—November 5, £21/6/3; November 12, £20/18/9; November 19, £21/2/6; November 23, £21/3/9; November 30, £21/15/-; December 4, £21/12/6.

For the month of October the imports of lead into Great Britain were 21,449 tons, including 6222 tons from Australia. The exports were 2627 tons.

Spelter.—The spot quotation for spelter, as cabled from London, have run as follows:—November 5, £24/2/6; November 12, £24/6/3; November 19, £24/13/9; November 23, £25/1/3; November 30, £26/7/6; December 4, £26/1/3.

Tallow.—Following are the statistics for November and particulars of the latest auction sales:—

Nov.	Casks	Date	Casks Offered	Casks Sold	Mutton Med., per cwt	Beef Med., per cwt
Imports	799	Nov. 7	755	303	41/-	41/-
Deliveries	890	.. 14	Nil			
Stock	1144	.. 21	Nil			
		.. 28	1030	186	40/6	40/-

Victorian Hardware Assistants

A meeting of the Hardware Assistants Union was held at the Club Rooms, on October 10. Mr. C. A. R. Davis has resigned from the wages board, and Mr. J. R. Nettleton has been appointed in his stead. Eight new members joined up.

It was decided to support the Hardware Club in its effort to change the date of the annual picnic to the second Monday in March. The suggested alteration is made, it is understood, in deference to the wishes of suburban ironmongers.

A proposal to do away with the late Friday night in the hardware trade was discussed. It was anticipated that some support might be expected from a number of employers.

New Premises in Melbourne

Campbell Walker & Co. Pty. Ltd., wholesale hardware merchants and importers, have secured larger premises at 415-17 Lonsdale-street, Melbourne, next door to their old warehouse.

This is a wise move on the part of the firm, enabling them to display their stocks to greater advantage, while better facilities are available for the handling and delivery of goods. The ground floor is devoted to builders' hardware, including shelf goods, the sales department also being located here. Show cases and display stands will be stocked with brassware, decorative ware and cabinet handles, as well as kitchen hardware, and similar lines.

The first floor will be used for display purposes as well as for stock, and here will be found many articles of interior brassware, log boxes, fireside sets and stamped goods in which the firm specialise. The top floor will be devoted to bulk goods, and timbers, while veneers and plywoods will be housed in the basement, a tram track having been installed for handling heavy packages.

It is the intention of the firm to extend the scope of the business, and many new lines will be added upon the return of the managing director, Mr. Colin Campbell, who leaves early in the New Year for a business trip abroad.

The Turnover of Customers.

(American Paper)

In the hardware business or any business for that matter we require customers. The question of turnover in customers is one of the most vital things that affects our business. A customer that sticks by us, and trades with us year after year is an asset, and we try to appreciate him or her. One who comes into our store once, and does not come again represents very little comparatively, for we depend on the people of this community and vicinity for our business.

What is it that holds trade more than anything else? Is it the stock of goods, the store location, the prices, the advertising of the goods, or is it the personality of the merchant and clerks that wait on you when you go into a store?

To the writer's notion the attention and service one gets in a store and the way it is given has more to do in bringing back customers than anything else. When the writer went to business college they used to teach us that when we took an inventory of the assets of a business, we should include something for good will. The writer thinks that he knows what that means now, after forty years of experience in a hardware store. He has seen the value of that good will go up and down—in his store and others much the same as the mercury does in a thermometer.

One store in Boone has just closed its doors perhaps for the lack of that good will more than anything else. Another store has kept going where that same good will of the customers had more to do in keeping it alive these hard times in Iowa, than anything else.

Reputation is a guide to the buyer, and a stimulus to the seller. To the buyer it is a signpost to merit. To the owner of the reputation, it is a challenge to keep faith.

Skilled salesmen are like the sea captain of schooner days. He made each changing current or ripple help to carry the craft along. But he set his course by the fixed stars.

Australian Market Prices

N.B.—The prices given in these columns are mostly those at which wholesale merchants are prepared to supply ordinary parcels to storekeepers, or other retail dealers. In a few cases we give the quotations of manufacturers or their agents. Preference as well as general duties are shown in the "Duty" column. The first rate is that on goods from the United Kingdom, and the second is the general rate on goods from foreign countries. "F" represents free, and "F 10%" free from the United Kingdom and 10% from other countries.

	Duty	Sydney Dec. 4	Melbourne Dec 4	Adelaide Dec. 1	Brisbane Nov 30		Duty	Sydney Dec. 4	Melbourne Dec 4	Adelaide Dec. 1	Brisbane Nov 30
Pig Iron ...	20/ 40/	£	£	£	£	Zinc—		£	£	£	£
British ...		...	7 5/	7 10/	...	Sheet 9 to 18g	25%, 40%	60/	62 10/ to 65	67/	65/ cwt.
Swedish ...		...	...	...	...	(7 x 3 & 8 x 3)	35%, 45%	49/	7	64/	5/6
Lithgow ...	7 10/	7 5/	...	...	...	Perforated	10%, 20%	32	...	...	...
Newcastle ...	7 10/	7 5/	7 10/	22 10/ basis	...	Spelter		301 10/ to 37	41 10/ to 42	...	40/
Bar and Rod	44/ 120/	23 basis	English 21	21	...	" Elec...	25%, 40%	1/9	1/5	...	1/9
Australian ...		...	18/6	17 10/	...	" Brazing		...	...	...	...
Mild Steel ...	44/ 120/	...	...	...	...	Bolts & Nuts—		75/ 59/	63/ 47/ 41/	41/- 8/	...
Bar ...	19 basis	19 basis	19 10/	19 10/	...	Cuphead	35%, 50%	76/ 57/	63/ 46/ 39/	41/- 36/	26/3 to 73/
Angles ...	19	19 10/	20	19	...	"		70/ 54/	56/ 43/ 37/	40/- 34/	...
Tees ...	22	18	21	20	...	"		65/ 49/	52/ 39/ 35/	37/- 33/	...
Hoops	F., 10%	20 basis	19 basis	19/	21/ basis	" 6 1/2" to 9"		61/ 47/	49/ 38/ 34/	36/- 31/	...
Black	29/9 basis	32	33/	32 10/	...	" 9 1/2 to 12"		59/ 45/	47/ 36/ 32/	33/- 30/	...
Galv. Corr. 24g.	20/ 60/	25	24 10/	25	25 5/	Tanks, 400-gal.	Free	6	75/	5 10 0	5 5 0
Orb 25 g	26 10/	26	26 10/	26 10/	28 15/	200-gal.	F., 10%	3	2 5/	3 10 0	3 5 0
Phoenix Cr.	20/ 60/	26	26 10/	27 5/	28 15/	Tubing		65 off list	55% off	58% off	List 45% off
Galv. Plain 24g.	30/	27	27	28	27	Black, up to 3"	27 1/2	...	60% off	35 off	5% on
Queen's Hd.		26 5/	26 10/	27 15/	26 10/	3 1/2 & up	27 1/2	...	55% off	46% off	40% off
Phoenix Cr.		...	...	...	40	Galv. up to 3"	27 1/2	...	...	...	...
Fleur-de-lis		...	...	...	...	" 3 1/2 & up	27 1/2	...	...	...	...
Other		...	...	...	...	Steam, up to 3"	27 1/2	...	...	...	...
Sheet	F., 125/	26 basis	25 basis	25/15	26	3 1/2 & up	27 1/2	...	...	...	...
Black		B26, G34 5'	26 10/	...	19	Wr ght boil.	F., 5%	...	10% on	...	...
Baldwins	F., 120/	17/- basis	15 basis	15	15 10/	Explosives—	10%	1/-	10% d.	1/-	1/1
Plate		19-6	21	19	20/-	Hall's C.C.		10% d.	10% d.	11 1/2	1/1
Steel	F., 120/	17/- basis	15 basis	15	15 10/	Curtis's		10% d.	10% d.	...	1/1
Girder	F., 120/	18 5/	18 5/	...	...	Chilworth's	15%, 25%	3/6, 4/6	2/9 to 4/6	3/6 to 4/11	3/6 to 5/
Fencing Wire		14 5/	14 5/	...	...	Sporting		8/ to 8/6	8/ to 8/6	8/ to 8/6	5/
American		14 5/	14 5/	...	...	Diam. S'less	F. 5%	72/6	74/6	74/6	78/6
Austra'n Bl.		14 5/	14 5/	...	...	Amberite		65/	66/	67/	71/
Galv.		14 13/6	15	15	14/13/	Blast'g Gel.		56/ to 60/	56/ to 59/8	54/6 to 58/6	62/ to 66/
"		15 18/	16	16	15/10/6	Gel. Dyna.		41/ to 51	51/ to 57/	48/6 to 51/6	58/ to 102/
"		16 8/	17	16 10/	16/17/3	Dynamite		55/ to 60/	55/ to 60/	60/ to 85/	90/
"		18 12/6	18 10/	18 10/	18/8/9	Detonators	15%, 25%	63/6	61	71/	...
Barbed Wire,	68/ 180/	24	...	...	...	Shot—Chilled	5/ 6/	61	56	68/	1/4
Amern. 12-g.		25 10/	...	...	...	Australian	Free	7/6	5/	5/8	8/6
Austn. 12-g.		24 10/	22 10/	22 10/	12-24 8/9	Cyanide Pot.	Free	15/	16/6	16/6	18/6
" 13-g.		24 10/	23 10/	23 10/	12-26 10/	Quicksilver	35%, 45%	60/	60/	60/	60
" 14-g.		26	24 10/	25	14-25 19/9	Sash Weights	F., 10%	21/ cask	21/	21/-	21/ cask
Wire Netting	F., 200/	£48/15/0	49/ 0/0	43/ 5/9	...	Sheep Shears	20%, 30%	37/6 K.W.	35/	47/6	50/ cask
42 x 1 1/2 x 17	per. ton	£39/ 5/3	39/10/0	38	...	Cement—Imp't'd		Pixie 35/-	8/	9/3	18/ bag
42 x 1 1/2 x 18		£41/16/0	40/ 0/0	45	...	Aust. (bags)	1/6, 2/c	...	...	...	...
42 x 1 1/2 x 17		£33/ 2/0	34/ 0/0	33 10/	...	Plaster, Imp.		...	...	...	...
42 x 1 1/2 x 18		£41/16/0	43/ 0/0	41/16/	...	Slates (20 x 10)	30%, 40%	...	...	...	...
36 x 1 1/2 x 17		£33/10/6	36/15/0	...	...	White Lead—	8/ 10/ or	63/6	63/6	64/-	62/
36 x 1 1/2 x 18		£35/13/0	34/ 0/0	33/10/6	...	Imported	25%, 30%	56/	60/	60/	59/6
36 x 1 1/2 x 17		£29/10/0	29/10/0	28	...	Australian	20%, 30%	...	70 to 100	...	72/- to 80/
36 x 1 1/2 x 18		...	20	28 15/	...	Zinc White		...	...	...	Colonial 56/
Nails—						Oils—					
Horseshoe ...	12/ 15/	Less 10%	to 1/lb.	1/ less 10%	List Price	Linseed (raw)	9d., 1/	R5/	5/4	Raw 4/9	5/4
" Austn.		...	List	...	To less 10/	Imported	6d., 8d.	C4/6 D5/6	C., 4/2	Boiled 4/11	4/9
Wire ...	5/6, 8/	23/6 basis	17/ to 20/	24/6 to 35/	26/- basis	Australian	9d., 1/	...	...	...	...
" Austn.	or 25%, 35%	65/- cwt	65/cwt., 9/6	9/-	11/	Colza	...	...	...	...	...
Roofing—	5/6, 8/	...	...	...	38/	Burning	...	...	...	...	...
Evenend		...	...	...	...	Castor	...	...	...	...	...
Lead-head		...	...	...	...	Castor	...	...	...	...	...
Block Tin ...	Free	£243/10	226	230/	3/	Castor	...	...	...	...	...
Tin Plates,	F., 10%	...	...	...	...	China	...	...	...	...	...
28 x 20—	28 x 20	112's 60/-	50/	112's 52/6	27/	Cotton seed	2s., 2/6	...	8/6 to 10/	...	10/
I.C. Coke ...	56s	37/6	70/	...	42.	Kero.—C.O.R.	Free	...	13/	...	12/6
I.X. Coke ...	Free	25/6	26	29	37/10	Laurel	...	...	13/6 to 14/6	13/	12/6
Pig Lead		...	...	...	...	Light of Age	...	...	13/6 to 14/6	13/	12/6
Austn.		...	...	...	...	Pennant	...	...	4/9	4/10	4/7 1/2
Sheet Lead	10%, 20%	40/	40	44/6	46/	Turpentine	F.,	...	18/ per case	2/8	2/6
Dampcourse		4 1/2 6/6	48	...	...	Substitutes	1d., 1d.	...	...	3/	3/-
2 lb. ...		4 1/2 9/9	47	...	...	Shellac	...	...	...	...	...
3 lb. ...		...	...	...	...	Whiting—	6d., 9d.	...	...	...	...
Lead Pipe—	10%, 20%	45/	47 10/	47 5/	55/	English	...	8/-	8/	9 10/	£10 ton lots
1 to 2 in. coils		47/	50	49 15/	56/	Colonial	...	6/3	6/	5/	6/8
Lengths to 5'		50/	51	49 10/	57/	Resin, G grade	Free	32/6	32/-	28/	24/6
Compo. 1/2" & up		...	...	...	...	Carbide	80/ 150/	32/6	27/ 6	29 5/	29 7/6
Copper—		...	...	...	...	" I X L "	...	34/-	33	33 10/	33
Ingots	25%, 40%	1/9	70	78/	10d.	Scandinavian	...	...	...	...	...
Sheet		1/3	1/2 to 1/6	1/6	1/6	Canadian	...	...	...	...	...
Brass		...	...	...	...	Japanese	...	...	...	...	...
Sheet		...	...	...	...	Bluestone—	100/ 200/	...	...	...	...
		...	...	...	...	Macclesfield	...	40/	36/	...	42/
		...	...	...	...	Australian	36(1 cwt c/s)	...	...	37/6	...
		...	...	...	...	Japanese	...	...	...	...	...
		...	...	...	...	Stock Tar, 42 g.	25%, 35%	...	1/5	60/-	...
		...	...	...	...	Woolpacks—	Free	...	...	...	...
		...	...	...	...	42 x 1 1/2	...	4/3	6/	5/9	...
		...	...	...	...	54 x 1 1/2	...	...	4/7	4/9	4/8
		...	...	...	...	Cornsacks—	Free	9/6	11/6	11/6	10/6
		...	...	...	...	2 1/2 lbs. (Oats)	...	9/7	9/6	10/6	10/7
		...	...	...	...	2 1/2 lbs	...	...	...	...	...
		...	...	...	...	Branbags	Free	...	...	...	...

Small buyers requiring credit for broken parcels must expect to pay more than prices here quoted.

Business Register

If you correct them monthly by these pages you will have lists more up-to-date than any Directory. Some leading firms do this.

New South Wales

Firms Registered

T. S. Lee & Co., general storekeepers, Goola; proprietors: Thomas S. Lee and Esther E. Lee.

Linder & Taylor, brassfounders, 278 Mitchell-road, Alexandria; proprietors: Herbert C. Linder and Alfred C. W. Taylor.

W. J. Spooner, hardware dealer, 217 Church-street, Parramatta; proprietors: John W. Alexander and William J. Spooner.

T. F. Mills & Sons, timber and hardware merchants, Armidale; proprietors: Thomas F. Mills, George A. Mills and Alec. M. Mills.

British Cutlery Co., indentors of and wholesale and retail dealers in cutlery, Catton Building, 199 Liverpool-street, Sydney; proprietor: Maurice E. Terpening.

Company News

Southern Cross Paint Ltd. have been registered with a capital of £1000 in £1 shares. Objects: To carry on the business of manufacturers of paint and varnish and other articles, etc. Subscribers: J. H. McClemens, E. Taylor, F. E. E. Brooks, M. Daly, P. Morgan, Dorothea Peters and E. Scott. Reg. office: Sydney.

Mouldings Ltd. have been registered with a capital of £15,000 in £1 shares. Objects: To acquire by agreement the machinery, plant, etc., of the Electrical Accessories & Engineering Co. of Australia Ltd.; also an invention relating to "improvements in electric lamp holders," etc. Subscribers: D. Whitworth, J. W. Langridge, C. E. W. Bean, Montague B. Bean, Harry Austin, R. R. Dangar and E. L. Gee. Reg. office: Sydney.

Davison Products Co. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire the business of manufacturers of paints and colours carried on under the style of Davison Products Co., at Aston-street, Granville. Subscribers: Samuel R. J. Davison, Terrence A. Daly, Richard A. P. Waugh, Ernest Lee, Fred M. Fox, William C. C. Whiting, Keith M. Whiting and Robert F. Wylly. Reg. office: Granville.

Broomfields Ltd. made a net profit of £2409 for the year ended August 31 last, as compared with £4500 for the previous twelve months. Consequently the dividend is reduced from four to three per cent. per annum. The directors state that the company suffered from adverse trade conditions throughout the past year, one of the causes being the prolonged dislocation of the shipping industry. The newer departments of the business showed expansion, and this helped materially to counter-balance the slackness in trade which affected the older departments.

New Zealand

Kenny, Clyde & Co. Ltd. have been registered with a capital of £780 in £1 shares. Objects: To acquire and continue the business of brassfounders and engineers carried on at 26 Stafford-street, Dunedin, under the style of the Otago Brass Works. Subscribers: J. Kenny and W. T. Clyde.

Queensland

E. & F. Allendorf, general storekeepers, Mt. Garnet, have been registered under the Firms' Act;

proprietors: Ellen C. L. Allendorf and Claus F. Allendorf.

South Australia

Firms Registered

Rogers & Rogers, general storekeepers, Mount Gambier; proprietors: Richard Rogers and John Rogers.

McPherson's, hardware and machinery merchants, 116-130 Waymouth-street and Queen's Court, Adelaide; proprietors: McPherson's Pty. Ltd.

Company News

Malleable Iron Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To carry on the business of iron, brass and other metal founders, mechanical and electrical engineers, tool makers, metal workers, smiths and woodworkers, etc. Subscribers: Joseph Anderson, Robert Alexander McLachlan, Percy Herbert Jones, E. V. Little, and Royston Eric Jackman. Reg. office: Dale-street, Port Adelaide.

Catt, Son & Catt Ltd. have been registered with a capital of £3000 in £1 shares. Objects: To carry on in all its branches the business of merchants, agents, importers, wholesale and retail distributors, warehousemen, storekeepers and dealers in hardware, softgoods and general merchandise of all descriptions, etc. Subscribers: Frederick William Clifford Catt, Norman Henry Catt, Ronald Moreton Clifford Catt, Gertrude Anne Harrington and Lilian Bruse Catt. Reg. office: Worando Buildings, Grenfell-street, Adelaide.

Tasmania

W. G. Watson & Co. Ltd. have been registered with a capital of £100,000 in £1 shares. Reg. office: Sydney.

The Tasmanian Art Metal Co., metal plate manufacturers, Hobart, have been registered under the Firms' Act; proprietors: Wilfred George Kemp and Claude Harold Wood.

Victoria

Wm. T. Bedford has purchased the hardware and ironmongery business of Eastaugh & Carrol, at Swan Hill.

Victoria Varnish Co., 198-202 Latrobe-street, Melbourne, have been registered under the Firms' Act; proprietors: Pinchin Johnson & Co. Ltd.

Company News

Holmes (Patent) Waterless Cooker Pty. Ltd. have been registered with a capital of £15,000 in £1 shares. Subscribers: Percy Henry Holmes and Richard Wales. Reg. office: 327 Collins-street, Melbourne.

Cantilift Pty. Ltd., manufacturers of hoists, lifts, etc., have been registered with a capital of £20,000 in £1 shares. Subscribers: John Bates and Karl Frederick Otto Schmacher. Reg. office: 393 Flinders-street, Melbourne.

A Challingsworth Pty. Ltd., ironfounders, mechanical engineers, etc., have been registered with a capital of £50,000 in £1 shares. Subscribers: Fred. Challingsworth and Herbert Atkins Challingsworth. Reg. office: 476 Swan-street, Richmond.

L. Clark Pty. Ltd. have been registered with a capital of £10,000 in £1 shares. Objects: To acquire as a going concern the business of general storekeepers carried on by Leslie Clark. Subscribers: Leslie Clark and Florence Ethel Clark. Reg. office: Boolara.

Alexander Mair & Co. Pty. Ltd., iron and machinery merchants, have been registered with a capital of £20,000 in £1 shares. Objects: To acquire as

a going concern the business carried on by Alexander Mair & Co. Pty. Ltd. (in liquidation). Subscribers: Harold Daniel Luxton, John McCahon and Francis Plumley Derham. Thomas James Luxton is also a director.

Western Australia

Arthur Henry Dorney has commenced business as a hardware dealer, 151 Rokeby-road, Subiaco.

J. D. Jones & Son have commenced business as stove repairers and ironworkers, at 36 Woolwich-street, West Leederville.

Perry Engineering Co., engineers, steel window makers, etc., 12 Surrey Chambers, St. George's Terrace, Perth, have been registered under the Firms' Act; proprietor: Samuel Perry.

Donaldson Bros. & Tippet Pty. Ltd. (incorporated in Melbourne, Victoria), have their registered office at Perdriau Place, rear of 876 Hay-street, Perth. George Stanley Weymouth, of Perth, is the attorney.

Travellers

In South Australia

Mr. F. L. Westaway of Walter A. Cox Ltd., 195 Clarence-street, Sydney, left for Adelaide on December 29 with a full range of samples and may be addressed c/o C.T.A. Club, North Terrace.

In Victoria

Mr. Louis A. Scott, of Danks Buildings, Sydney, will be at Commerce Buildings, Flinders-street, Melbourne, during January, with a full range of samples.

In New Zealand

Mr. Leslie J. Pain, Bathurst House, 209a Castle-reagh-street, Sydney, returned to Sydney on November 13 after a two months' business visit to New Zealand.

Mr. A. Stewart Hunt connected with the export division of Henry Disston & Sons Inc., Philadelphia, U.S.A., recently returned to Sydney from a trip around the South Pacific Islands—Fiji, Tonga and Samoa and New Zealand.

Mr. Percy A. Lyttle of Walter A. Cox Ltd., 195 Clarence-street, Sydney, left by the S.S. "Maunganui," on December 27, for New Zealand, with a full range of samples. His address while in the Dominion will be c/o N.Z. Express Co., Wellington.

To the East

Mr. Y. Yamashita of Hill & Yamashita, Denison House, George-street, Sydney, will be leaving on January 15 for a six months' business visit to Japan.

From Europe

Mr. H. C. Tarrant, of Tarrant's Ltd., 213 Clarence-street, Sydney, has returned from an extended visit to Great Britain and Continental Europe.

Mr. E. Gerber, of Bloch & Gerber Ltd., 48 York-street, Sydney, has returned from a tour that included England, Switzerland and other parts of Continental Europe.

Mr. H. B. Lamb, of Blundell, Spence & Co. Ltd., the well-known manufacturers of paints and linseed oil, with headquarters in London, is now visiting Australia in connection with the business of his company.

Mr. J. D. Bell, a director of James Campbell & Sons Ltd., Brisbane, and president of the Federated Hardware Merchants' Association of Australia, returned from an extended trip abroad at the end of November. Both in America and Europe, Mr. Bell

has been engaged in important negotiations with manufacturers. He has also investigated various schemes of training for hardware employees.

Mr. Charles Pressdee, of Brisbane, returned to Australia by the R.M.S. "Oronsay" after a four months' stay in Great Britain. For some years Mr. Pressdee has represented in Queensland Goodwin & Co., of Birmingham, with whom a good deal of his time was spent, and from whom he brings a new range of samples. He also represents Perkins & Powell, Birmingham (brassfoundry), C. G. Bonehill Ltd., Birmingham (guns), Henry Wilkes & Co. Ltd., Studley (fishing tackle), and Hutchinson & Co. Ltd., Birmingham (electro-plated ware).

Industrial Conditions Overseas

Mr. E. P. Houghton, manufacturers' representative, of Sydney and Melbourne, has returned from a trip embracing Canada, the United States, the British Islands and Continental Europe.

Speaking generally, Mr. Houghton found that in most trades American manufacturers were selling on a very narrow margin and the jobbing houses had a hard time to make any profit at all. Indeed the term "profitless prosperity" had been coined to describe the conditions prevailing. Price fixing was illegal under the Sherman Act, the result being that manufacturers were fighting each other to maintain production and reduce overhead expenses.

In England, Mr. Houghton was agreeably surprised at the progress motor car manufacturers were making. He visited the Austin, Morris and other plants, and found that they had splendid lay outs. They were winning more and more each week in mass production. In other lines it could not be said that British manufacturers are asleep as was sometimes imagined in Australia, but some of the factories he visited suffered in comparison with those he saw in America. Many of the plants were obsolete.

Mr. Houghton visited Velbert, the home of lock manufacturing in Germany, where some forty firms were at work. The only plant of any size, however, was that of the Yale and Towne Mfg. Co., taken over from Damm & Ludwig, who had gone out of business. This had been moved from Altona by the purchasers at great expense. The German people were working hard, and the country appeared to be remarkably prosperous.

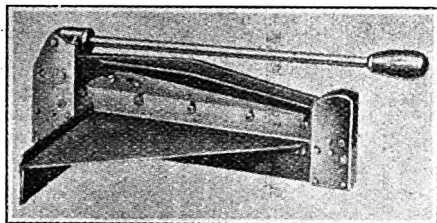
Coal Shovel as Loud Speaker

There are still some puzzles for wireless experts to solve. Kalmar, a quiet little town in the south of Sweden, famed for its imposing castle and the Kalmar Union, which in the fourteenth century united Sweden, Denmark and Norway, is the scene of a wireless performance that is entertaining the multitude and puzzling the experts. In the station of the local Fire Brigade, a coal shovel suspended in its usual corner suddenly took upon itself to act as loud speaker—a fact that was only realised after the lapse of some time; at first the firemen listened with even greater awe to the cascades of sound and bursts of song emitted by the shovel. By this time the shovel is famed throughout Sweden, having been interviewed, so to speak, by correspondents from the Capital. At the visit of one of them, the shovel was giving a lesson in English, without, the correspondent adds, the northern accent that one would expect the shovel to have contracted from its long familiarity with coals from those regions of Britain. An investigation showed the shovel to be suspended in contact with the power line to the local broadcasting station, but beyond that the experts are unable to explain the clear and distinct sounds emitted. Meanwhile, the Kalmar firemen are proud of their shovel and basking in the unwonted notoriety of their station.—"Swedish Export Gazette."

Machinery

"Clipper" 10-Inch Belt Cutter

For cutting lengths from a roll or squaring ends of belting up to 10 in. in length, this cutter has



been introduced by the Clipper Belt Lacer Co., Grand Rapids, Mich., U.S.A.

It will square all makes of belts, and of the toughest material up to 10 in. in width with slight pressure on the handle in one operation. The device is made from cold-rolled steel and malleable castings where necessary. Tool steel is used for the blade.

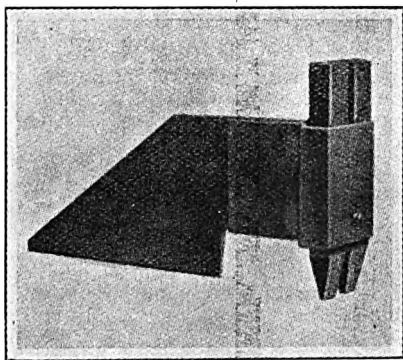
Slushing Compound

For slushing gears, shaft journals and exposed finished metal parts of machinery to prevent rust while in storage or in transit, a viscous slushing compound has been placed on the market by the Merchandise Department of the General Electric Co., Bridgeport, Conn., U.S.A.

According to the makers this compound is cheaper than most greases and vaselines previously used for the purpose, and it has the added quality of partially drying on the metal, thus forming a protective coating which will not readily rub off in handling, but which is easily removed by benzol. It comes in various size containers ranging from barrels down to one-gallon cans.

Holder For Metal Stamps

A stamp-holder like the one shown in the illustration can be used to advantage for stamping work with double figures, using single-figure stamps.



The holder shown was recently made up in a small shop. A similar holder can be made in a short time by bending a piece of sheet steel to enclose the stamps and fastening the two ends with rivets. By extending one end and cutting it diagonally, as shown, a convenient handle for gripping the holder is provided.

High-Speed Hacksaw Blades

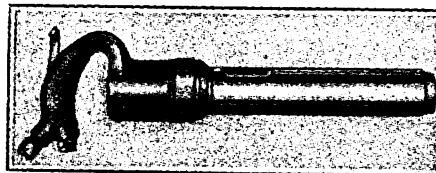
Although costing more than tungsten alloy blades, introduced by the L. S. Starrett Co. of Athol, Mass., U.S.A., high-speed hacksaw blades are claimed to reduce the cost of cutting.

The No. 840 blades are intended for hand use, while the No. 850 are suitable for power saws. The former come in 10 and 12 in. lengths, and the latter in 12, 14 and 17 in. lengths.

Ingersoll-Rand Rivetting Hammers

Four sizes of these rivetting hammers, having strokes of 5, 6, 8 and 9 in., have been developed by the Ingersoll-Rand Co., 11 Broadway, New York City, U.S.A.

According to the manufacturers they are powerful, easy to operate, and have low air consumption. One improvement is the handle, which is kept tightly in place by a spring locking device. It is threaded on to the barrel, and the spring lock not



only prevents the handle from unscrewing, but applies tension to tighten it automatically.

The valve operates in a hardened and ground valve box located at the head of the barrel, and is clamped in place by the handle. The valve has large bearing surfaces, and is designed to be free from holes or ports from which cracks could start.

The valve box has a solid upper end which provides a positive compression chamber for the piston on its up stroke. This feature acts always to prevent the piston from striking the handle end. The barrel is made of special steel, heat-treated and ground. An open-type outside trigger handle is furnished as standard, but closed or inverted type handles can be supplied.

Flood Light Attachment

Flood lighting of night work can be accomplished by the use of a portable attachment which has been announced by the Prest-O-Lite Co. Inc., 30 East 42nd-street, New York, U.S.A. It is intended for use with small tanks of dissolved acetylene such as are employed for truck and tractor lighting.

The device is compact and of simple construction. A universal adjustment is obtained with one swing joint, thus minimising the possibility of leakage.

The attachment is placed near the vertical axis of the tank so that it may be used as a handle. Only a single knurled nut holds the 10-in. reflector in place. An improved burner, which will not "carbon up," is placed at a good focal point and requires no adjustment.

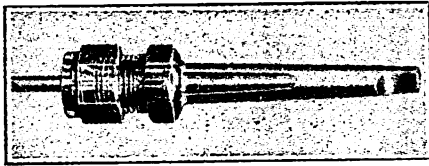
"Save-Drill" Chuck

Both long and short straight shank drills can be held in a "Save-Drill" chuck introduced by the Sandusky Nut Co., of Sandusky, Ohio, U.S.A. The device consists of three pieces, a hexagon locking nut, a one-piece collet and the body.

The hexagon locking nut forces the collet into a locking bevel in the body which is ground to a

perfect centre. The body carries a hexagon which aids in removing drills. The shank may be taper or straight according to requirements.

This chuck is made in four sizes. The No. 1 size will take drills from 0 to 5/16 in., and the dia-



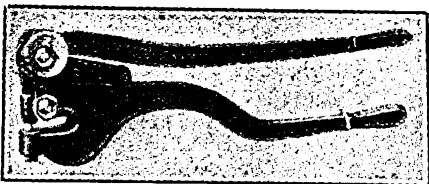
meter across the corners is 1 in., while the No. 4 will take drills from 0 to 3/4 in., and is 1 13/16 in. across the corners. Collets can be furnished to fit the drills used.

Because of its compactness, this chuck may be used for drilling holes on close centres. It will use both pieces of any broken drill if they are long enough for service.

Whitney No. 7½ Punch

This No. 7½ punch has been added to the line manufactured by the Whitney Metal Tool Co. of 97 Forbes-street, Rockford, Ill., U.S.A.

Its capacity is midway between that of the No. 7 and No. 8 punches. It will punch a 3/4 in. hole through plate 3/16 in. thick. The gap is 4 in. in length and 3/4 in. in height, and the overall length is 22 in. The drop-forged operating handles will

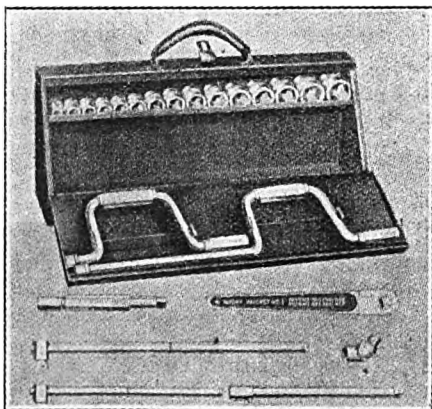


not become disengaged. All wearing parts are hardened.

The device will punch inside of 90 deg. It is furnished with three punches and dies. The weight is 10½ lb.

Socket Wrench Service Kit

Socket wrenches up to 1½ in. hexagon are furnished with this service kit, which has been placed on the market by the Husky Wrench Co., Milwaukee, Wis., U.S.A. A 15 in. combination T is provided.



The brace and speeder are attached with clips to the cover so that they will not interfere with the accessibility to the inside of the box. No partitions are placed in the lower part of the box, so that a

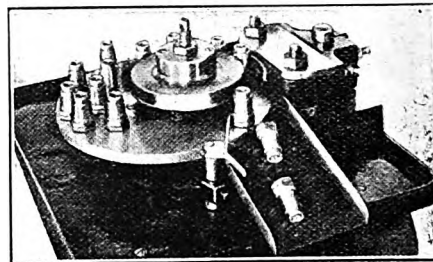
maximum amount of space is available.

The sockets are arranged on the upper shelf, all openings facing towards the front for easy selection.

The set is packed in a carrying case made of 20-gauge sheet steel finished in black lacquer, and is equipped with a hasp for locking purposes. A leather covered handle is provided.

Marking Machine.

The Noble & Westbrook Mfg. Co., of Hartford, Conn., U.S.A., have designed a rapid-production marking machine known as the "No. 25." It is intended for stamping small parts and avoid the risk of crushing.



The machine is of heavier construction and of greater capacity than the marking machines previously marketed by this company.

The working parts consist of a centre dial, acting as a pressure dial, which rotates and carries the work across the lettering die. The loading table, which carries the work forward to the marking position, revolves slower than the pressure dial, giving the operator ample time for loading. The work is placed in any convenient position on the carrying dial, which automatically brings the parts into position as it revolves. After being marked, the parts are automatically unloaded.

The moving parts of the machine are of hardened and ground steel, ensuring long life. The lettering die is mounted in a die-holder, which can be raised and lowered in order to secure the marks on the proper place on the work. The pressure dial can be raised and lowered to correspond with the die. The machine is claimed to have a production capacity for marking 125 pieces a minute. A ½-h.p. motor is part of the equipment of the machine, the total weight of which is 425 lb.

Clearance For Piercing Punches

A source of trouble in piercing holes in brass and other soft metals is the tendency of the slugs to follow the punch out of the die on the up stroke and drop on the top or face of the die. This difficulty is often experienced when the piercing holes are made according to the usual practice of having the diameter of the hole larger than required by an amount equal to six per cent. of the thickness of the stock. According to this practice, the clearance around the punch for 1/4-inch brass stock is about 0.005 or 0.006 in. If this rule is followed and the pierced hole is very smooth, the slugs are quite likely to come back through the hole and drop on the top of the die.

This difficulty may be eliminated by giving the piercing hole a clearance of only 0.002 or 0.003 in. instead of 0.005 in.

If the piercing holes are reamed out with a tool that is not very sharp, there will be less likelihood of the slugs coming out on the top of the die. In the case of aluminium, the clearance should be less—say about 0.001 or 0.002 in. For piercing copper, the clearance can be slightly greater—about 0.002 or 0.003 in.

Cold-rolled steel stock does not give any trouble with the usual clearance.

Electroplate and Cutlery

Buyers' Notes for Retail Dealers

Sydney

Briscoe & Co. Ltd., of 383-85 Kent-street, Sydney, find the public taste favouring colours in such things as biscuit barrels, salad bowls, jelly jars and similar articles, with electroplate fittings.

Uncommon and likely to attract the eye of buyers is a salad bowl in imitation oak, with a band of squares representing sea and landscape scenes. The effect is enhanced by the cruet, jelly and honey jars to match. Cut crystal with electroplate bands and servers are well to the fore. Pyrex ware comes with etched lids in electroplate frames, both oval and round shapes being available. A china cake dish, richly decorated and octagonal in shape, is attractive in an electroplate band and upright handle. A wide range of case goods is on view, including teaspoons, with and without strainers, and cake forks and servers. Fish eaters, with silver or xylonite handles are also strongly displayed. A big feature is made of Wade and Butcher's carvers, available in a variety of cases, as well as a good choice of handles, such as square and round xylonite, and staghorn.

Edwards, Dunlop & Co. Ltd., of 123 Clarence-street, Sydney, carry stocks of pocket knives, sold on display cards in six and twelve assortments. A strong showing is made of ladies' manicure knives with coloured handles. Rodgers' cutlery is also well stocked, pocket, table and dessert knives being shown in great array. From the same manufacturers come scissors sold singly or assorted in boxes. A good selection of Christmas presents includes metal photo frames, manicure and companion sets, shaving outfits with revolving mirrors and smokers' stands in oxidised silver, as well as glass fruit dishes on E.P.N.S. stands.

Farleigh, Nettheim & Co., of 80 Clarence-street, Sydney, carry large stocks of table and dessert knives, both in the mirror finish stainless and the ordinary stainless. These can be supplied in six and twelve lots in ordinary boxes or in canteens with the usual assortment of spoons and forks.

Many and varied are the cases of carvers, one particularly noticeable being silk lined and suitable for presentation purposes. Saw edge table knives are shown in a variety of shapes and patterns, and spoons and forks are on view, including both round and oval shapes.

Scissors are sold in assorted sizes, a dozen on a card, and in addition there are some extra good quality samples for barbers' use. Equally wide is the range of pocket knives from the single blade little manicure toy to the big jack knife. Made specially for boy scouts is a knife with a number of blades and useful little devices which should make an acceptable gift for a boy. The low priced "Bertima" pocket knife is another popular seller, having several strong points of appeal. The big blade is magnetised and a pipe cleaner runs along the back. In addition there are a corkscrew, a coin tester and a cigar cutter.

Table and dessert knives of Sheffield make bear the firm's "Mimosa" brand and may be obtained in ordinary and stainless steel.

W. S. Friend & Co., of 113 York-street, Sydney, are making a fine display of cutlery from the factory of Arthur Price & Co. Ltd., Birmingham.

An exceptionally good showing is made of spoons and forks. The firm are N.S.W. agents for Thomas Turner & Sons, makers of the well-known "Hygienic" brand knives, spoons and forks. Stocks this season are very large, affording opportunity for a wide display. An exhibit of stainless and table knives made by Thomas Ibbotson & Co., attracts attention, and prominence is also given to the display of the Burns' and other bread knives. Carvers are shown in a variety of cases.

A mixture of E.P. and glassware is favoured this year, stocks having come forward from Anstey & Wilson, while the well-known Dixon make is also well represented; cheaper grades can also be supplied if desired. Included in the lists are cake and fruit dishes, looking dainty in their top pieces of cut glass on electroplate pedestals. Cruets are supplied with electroplate stands. Nut dishes are seasonal gifts and they can be had in plain finish or with fancy perforations. Sugar basins, with sifters, are supplied on heavy knob feet. Tea sets are in wide assortment, both in covered and open styles, and plain and square sets are also well to the fore. Coffee sets are also shown in a number of patterns. Silver serviette rings are sold six to a box, and cut glass flower bowls, some plain and others with floral and fruit decorations, are mounted on polished silver stands. Jam dishes, honey jars and jelly pots are supplied in crystal and coloured glass on electroplate stands.

Grimley Ltd., of Monarch House, Broadway, Glebe, have opened up fresh stocks of pocket knives from Lockwood Bros. Ltd. and Frank Mills & Co. Ltd., the latter sending a two blade skinning knife that has established a firm reputation among kangaroo shooters and bushmen generally. A. W. Wadsworth & Sons are the makers of a combination knife for the use of boy scouts, an instrument that should make a strong appeal to boys in general.

Frank Mills & Co. Ltd. contribute largely to the stock of dessert and table knives available in good quality stainless steel, and also at a lower price in ordinary steel. Selling at cut rates are supplies of stainless table ware, the assortment comprising spoons and forks of all sizes and in all the latest shapes. The Burns patent bread knife as well as the Mills bread knives and saws are in stock, the last mentioned maker's supplies being available with wooden handles if desired.

Cadman's "Bengall" razors are featured and for those who desire it a still cheaper make is carried, this line being hollow ground and supplied with imitation tortoiseshell scales, in a handsome case. Ahrem's "Good Line" butcher's knives are well stocked by the firm.

S. Hoffnung & Co. Ltd., of 163 Pitt-street, Sydney, carry a big range of pocket knives from prominent makers, and a special display is made of carvers in cardboard boxes by Harrison Bros. & Howson, of Sheffield. These are sold in pairs or three-piece sets. Another noteworthy example is a cardboard box containing six each table and dessert knives and a set of three carvers. Children's sets, knife sharpeners and nut crackers, are also shown, as well as table and dessert knives, without cases, and available in any number desired. The stainless nickel "Silval" spoons and forks introduced some time ago have won public favour. The genuine Burns bread

knife is a ready seller wherever shown, and all the different sizes and patterns are stocked by the firm, who are sole Australian agents for a special razor made by John Dirlam & Son, and also for the Gem safety razor. In addition other makes are carried, and also Brown & Sharpe's hair clippers.

In the electroplate department china tea and coffee sets are on hand in wide assortment. Shaving sets have in addition to the place for soap, a box to hold the safety razor. A flower dish and fruit dish combined affords a new departure, and octagonal shaped electroplate cake dishes are a strong feature. An ice cream or salad set consists of a large bowl on a tray with half a dozen cups to match, the bowl, and cups being of electroplate, with glass insets. A great variety of other sets is on view.

Keep, Macpherson Ltd., of 252 George-street, Sydney, are making a bigger showing this year of electroplate and cutlery than ever before. Fish sets are available in good quality sets. Handsome canteens in Jacobean style of cutlery are very striking, not alone because of the good quality and rich appearance of the contents, but also because of the varied shapes and patterns of the cases. Bread knives by all the well-known makers are in great variety as to size and quality. In spite of the claim that crystal glass is displacing electroplate the showing of tea and coffee sets, entree dishes, butter and jam dishes, and hot water kettles is remarkably large and varied. New shapes and designs are on view beside some of the older but still popular fashions. Liqueur sets on E.P.N.S. trays and fitted with silver handles and borders are rich looking.

New to Australia is the "Gotha" razor, a German make for which the firm are Australian wholesale distributors. The "Hamburg Ring" is another well-known German make. The "Empire" safety razor has a Sheffield steel blade and is ground in Germany in Gillette and Valet patterns. The firm are sole distributors for Australia and New Zealand.

A combined toast and asparagus fork is included in the display of forks and spoons. Glass rose bowls and fruit bowls on E.P.N.S. stands are numerous and milk and cream jugs are decorated with Australian animals and birds in scroll work.

P. Kleemo & Co., of 217 Clarence-street, Sydney, are showing some fine examples of table and dessert knives on behalf of Walter Oxley, Sheffield, for whom they are sole Australian agents. Canteens are in wide assortment the knives being made of Firth's stainless steel and the handles of grained xylonite. A feature is made of stainless steel dessert knives with xylonite handles, sold at a remarkably low figure.

A wide range of entree dishes, teapots, coffee pots and tea and coffee services in the latest fashionable designs, in E.P.N.S. and Britannia metal is shown by the firm. Prominence is given to the Australian made "Rotary" plate, including scone and sandwich trays, cheese dishes and biscuit stands. A feature is made of supper dishes, long and narrow in shape, and suitable for serving hot relishes, cakes or sandwiches.

Lyon & Milling, of 62 Clarence-street, Sydney, have received fresh supplies of cutlery in cases, a great assortment being available for selection. Canteens of various sizes and shapes are offered at lower prices with the quality well maintained. Carvers in stainless and ordinary steel, are supplied in oak cases, the handles being of wood, staghorn or composition. Scissors range from the smallest manicure varieties to tailors' shears. Carded cutlery ready for display purposes is a feature worthy of note and an extraordinary range of pocket knives is on view, a ready seller in country and in the city among campers being a pocket knife with seven blades and tools. Stainless nickel spoons in

the fashionable round shape are supplied on cards with forks of the same metal. Children's knives, forks and spoons are offered on cards or in boxes.

Tea trays with nickel fittings attract attention, and are said to be in good demand. Adorned with Australian flowers, the japanned base is covered with a glass top. Cruets are in wide assortment, while the range of jams, butters and pickle jars is greater than ever. Match boxes, cigarette cases, calendars, ornaments and boxes for the dressing table are good stock at this time of year.

A feature of this year's supplies are the spoons and forks in gilt, a move that has caught the popular fancy. The "Wearwite" spoons and forks are very good value, especially as they stand up to the name given to them.

Noyes Bros. (Sydney) Ltd., whose showrooms are in Henty House, at the corner of Erskine and York-streets, are sole Australian agents for Joseph Rodgers & Sons Ltd., on whose behalf they show a very wide range of cutlery, including 64 different kinds of knives, forks and spoons. Table and dessert knives are in wide variety, some beautiful styles being on view. A very wide range of carvers is stocked in beautiful cabinets. A grand array of bread knives is shown in ebony, ivory, boxwood and other handles. The "Meteor" fork guard is unlike the old type of guard attached to carving forks, but is raised by turning to the right or left, and thus cannot be pushed by the finger in a forward direction, ensuring complete protection. A big range of plate is available and can be supplied in suites, embodying table cutlery in Rodgers' plate or sterling silver, pocket knives and pen knives, sportsmen's knives and so on are in great variety, scissors and razors almost as great, make a big showing.

Electroplate forms an important part of the manufacturers' activities and tea and coffee sets are well stocked. Solid silver sets can also be supplied on order.

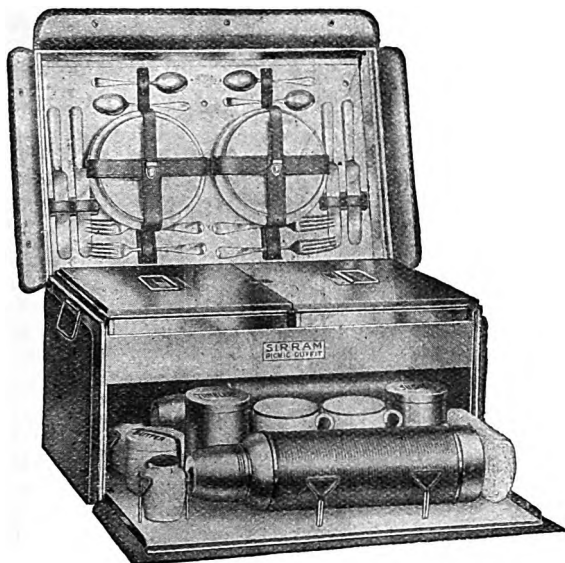
The Regal Silver Plate Co. Ltd., of Bishop-lane, Sydney, are the manufacturers of a line of tea and coffee pots, sugars and creams, principally for use in hotels and cafes, although orders are taken from storekeepers for general household lines. A feature is made of heavy weight forks and spoons, all marked at competitive prices.

The Sheffield Manufacturing & Plating Co. Ltd., of 84 Wentworth-street, Sydney, have issued a new catalogue covering a comprehensive range of their own electro-plated goods. Tea and coffee sets are prominently featured, the "Georgian" set being specially noticeable by reason of the uncommon shape of the five pieces of which it is composed. Set No. 440 is also rather uncommon as to shape. Entree dishes are solid and heavy, No. 356 being octagonal and solid Gadroon mounted. Double vegetable dishes are in varied assortment and breakfast dishes are available in a number of shapes. Cake baskets and sandwich dishes, asparagus dishes, sauce boats, vases, bread boards and toast racks, hot water jugs and afternoon tea sets, go towards making a big display.

Cutlery of Firth's stainless steel is now sold by the firm in dozen lots and in cabinets. The "Pembroke" consists of 56 pieces in a semi-oval canteen finished in Jacobean oak. All the spoons and forks are of Old English pattern.

Fish and dessert eaters are available in a wide choice of handsome cases, with grained xylonite or mother o' pearl handles. One case, in addition to the six pairs of eaters, contains a set of carvers. Three-piece cake servalls are available in assorted styles, such as Old English, Georgian, Chippendale and others, while pastry forks, sugar spoons, grape fruit spoons, soda spoons, fruit knives and forks are available in best quality and finish.

Smith, Copeland & Co. Ltd., of 33-37 Regent-street, Sydney, are featuring the "Sirram" picnic outfits, comprising tea cases and lunch and tea cases combined, six sizes being available. All are



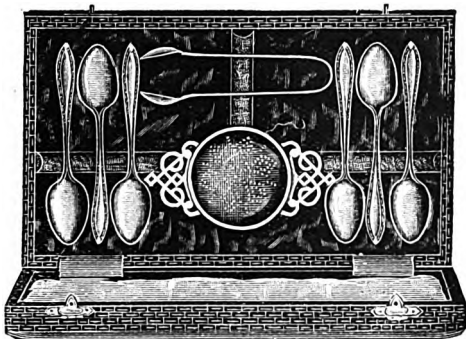
fitted with kettle, stove and spirit tin, stainless spoons and knives, milk bottle, vacuum flask and other necessary utensils.

The "Pola Kamp Kooking Kit" is a four party camping set, made up of four knives, forks and spoons, coffee and tea pots and a frying pan.

Tarrants Ltd., of 213 Clarence-street, Sydney, specialise in cutlery and shipments bought by Mr. H. C. Tarrant, senr., on his recent tour abroad are now being unpacked. These cover a great array of good quality in assorted cases. The cases are made of oak and are in varied shapes and designs, a number of very striking examples being in octagonal patterns. One that attracted attention contained 100 pieces of A1 quality made in Sheffield by the Reinforced Silver Works. For the most part stocks consists of mirror-finish stainless steel, although other qualities are available, the wholesale prices ranging from 12/6 to £27.

Fish servers are heavily silvered, and are supplied six pairs in well finished cases. Fruit and cake dishes are sold on high silver stands.

Willis & Sons Pty. Ltd., of 50 York-street, Sydney, say there is a distinct drift of trade back to E.P.N.S., although good business is still being done



with cut crystals. As to electroplate they say that Australian manufacturers have obtained a good footing in the market and that not merely because

it is "protected" but because they offer plain finishes and show originality in design. Thus a fruit dish available in different shapes has three knives attached to receptacles at each end, and a cake dish is similarly equipped with forks. An oblong entree dish has a cover that can be taken off and used as a supper tray. Ingenuity has been exercised in another case, where the cover can be used as a cake dish, the lower part as a fruit dish and the whole as an entree dish. Locally made vases are in great variety as to shapes and they range from 6 in. to 18 in. in height.

The firm make their own spoons, bearing the registered "Unicorn" brand, and boxed in half-dozen lots, a departure favoured by the retail trade.

Cutlery is an important line with the firm, and a great showing is made of canteens of different shapes containing from 42 to 160 pieces. Table and dessert knives, six to a box, have proved good sellers and a profitable line to handle. They bear the firm's own brand, and are made in the new mirror finish stainless steel, a sharpener being given away with each box.

Melbourne

Blockey Stone & Co. Pty. Ltd., of 268a Lonsdale-street, Melbourne, have an exceptionally fine range of cutlery from Harrison Bros. & Howson covering practically all lines. The selection of cased carvers is excellent, the cases and linings being attractively finished in a dozen different designs and tones. Both stainless and ordinary steel may be had. Dessert and table knives are stocked in this brand, as well as that of Christopher Johnson, the latter also in ordinary as well as stainless steel. For a cheaper line Frank Woods' cutlery is recommended as offering unusually good values, while an assortment of carvers of the same make is displayed. Harrison Bros. & Howson's stainless spoons and forks are regularly stocked.

A cheap canteen is available fitted with "Wear-rite" stainless spoons and forks or ten year c.p.n.s. For Christmas trade a range of carded jam, of butter spoons, electroplated on nickel silver are of good quality, and a number of cased afternoon tea spoons and cake forks should appeal to buyers.

A large selection of pen and pocket knives includes ranges from Joseph Rodgers & Sons and Harrison Bros. & Howson, as well as cheaper Continental makes. Safety razors are available in both gillette and "gillette pattern," and also in "valet" brand, the blades being always fully stocked.

Briscoe & Co., Ltd., of 391 Little Collins-street, Melbourne, advise an exceptionally large stock of cutlery by English and Continental makers. Such well-known brands as Rodgers, Johnson, Wade & Butcher, Southern & Richardson, Humphreys and Frank Wood are amongst the makers represented.

The prevailing demand is for stainless material, and the mirror finish is becoming popular with buyers. Table cutlery is available either in packets, boxes or cased. A feature of both Rodgers' and Johnsons' table knives is the handy rack box which adds to the general appearance of the goods. For Christmas trade carvers are a useful line, and provision has been made for a wide choice in this section. They come in two, three and five-piece sets, and the patent rest now fitted to many carving forks proves an added attraction.

In this department scissors are included, and here again the range is large, covering every pattern for every purpose. Hair clippers of all sizes are also in full supply. The stock of pocket cutlery embraces all leading makes, and ranges from the cheap lines up to the highest quality.

Special attention is given at this season to electroplate, and a good assortment is carried of both

English and Australian ware. Some attractive new designs in scone and afternoon tea trays should prove good sellers. One line which is finding favour this year is a tray with Duco finish, rendering it easily cleaned, and heat-resisting.

Another useful range of gift articles is represented in art brassware. In this connection "Beldray" ware is recommended. Some fine pieces are turned out in this make, the prices being moderate and the general quality and finish excellent.

Mention should be made of table forks and spoons. Stocks comprise E.P. goods as well as all the prominent nickel and stainless varieties.

John Danks & Son Pty. Ltd., of 391-403 Bourke-street, Melbourne, advise a full supply of cutlery from Harrison Bros. & Howson, Christopher Johnson & Co., Wade & Butcher and Cobb & Co. These are in stainless steel, and give a range of qualities which meets all demands. For the gift season a selection of cased goods will be found necessary in the store. Carvers by Wade & Butcher make a good display, the finish and appearance leaving nothing to be desired. All this cutlery may be had with bone, stag or xylonite handles. The various makers to-day offer a remarkable array of designs and types in pocket knives. No complaint can be made on the score of choice in these lines. Every description of blade and handle is shown by such manufacturers as Rodgers, Johnson, Harrison Bros. & Howson and others.

The leading brands of scissors carried by the firm bear the names Johnson and Wiss and include all kinds from the small nail variety to the large tailors' shears. Special recommendation is given to the "Gotta," a blade razor which is claimed to be of exceptional steel, capable of taking a keen edge and requiring a minimum of attention. The well-known "Bengall" is another reliable make which is constantly stocked.

Spoons and forks in stock include Dixon's e.p.n.s., and "Wearwite" stainless nickel, while a collection of cased afternoon teaspoons is available in a number of patterns.

Hawkes Bros. Pty. Ltd., of Geelong and Melbourne, carry a complete stock of cutlery of all kinds. Leading brands of English stainless dessert and table knives are always available, and attractive canteens of Cobbs manufacture are displayed in anticipation of the Christmas demand. The latter are in cases of various designs. Carvers are either in sets or pairs and the makes represented include Dickinson's, Johnson's, and Taylor's "Eye Witness."

A selection of bread knives has been landed, several numbers of Christopher Johnson's being specially good, and the ever-popular Burns is now obtainable in a variety of handles—cocobolo, enamelled or ivory. Nothing sells better at this period than children's novelties, especially when practical, and a number of sets for the young folk, comprising knife, fork, and spoon are to be had in handsome boxes and at prices to suit all pockets. A new idea is presented in a cheese tasting knife of English make.

In the table ware department a range of makes in e.p. spoons and forks is constantly maintained. The brands comprise Dixon's, Page's and "Corio," and stainless nickel in all popular qualities. A shipment of English electro-plated goods is just opened, and a selection will be found of shaving stands, mirrors, and a number of attractive novelties.

J. S. Kidd & Co. Pty. Ltd., of 410-12 Lonsdale-street, Melbourne, have provided a well selected list of cutlery and silverware lines suited to the present season of the year, and for gifts and presentations generally.

A large assortment of carvers in cases has arrived from E. M. Dickinson and W. R. Humphreys, at

prices to meet the varying needs of the trade. Many fine designs are included in this parcel. In table and dessert knives such makers as Johnson, Reynolds, Singleton & Priestman, and Wood are represented. All are available in stainless steel, packed in the neat racked boxes which add so much to the appearance of the packages and also improve the display value.

A good section is devoted to razors, which also lend themselves to the gift trade. The "Durham Duplex" is still selling well, and a stock of both frames and blades is always maintained. The "Valet" auto-stop is another good line. It is sold in the "utility" set, in red cover with three blades, at a price which shows a good return to the store. There is also the nickel razor in steel case, all spares and blades being available and "Gillette" patterns are also stocked with blades. All of these are well worth the trouble of a display at this time of the year. Other blades stocked are Wingfields, in Valet or Gillette patterns, Bleckmanns, and Wade & Butcher. A special offer known as the Wade & Butcher outfit consists of a Gillette type razor, six packets of five blades, and three only free sample blades. This should be an easy selling packet as the price is low.

While in this department mention must be made of Rodgers' pocket knives which are of quite reliable quality, and in a nice assortment, bread knives of all kinds and butchers' skinning knives. The Burns bread knife is also stocked.

A complete stock of spoons and forks covers all classes of nickel and stainless ware. These include Wood's in stainless nickel, "Wearwite" and Dixon's in nickel and also their "Resistant" brand. The same makers' goods in e.p.n.s. are available here also.

George Russell Ltd., merged with S. Cohen Sons & Co. Pty. Ltd., of 452 Flinders-street, Melbourne, have recently landed extensive stocks of table cutlery of all kinds, by prominent Sheffield makers. For the gift season or for presentation purposes a collection of canteens and cased carvers from Johnson, Dickenson and Joseph Rodgers gives a great selection, including as it does a variety of good designs in cases as well as contents. Another useful Christmas line is offered in the "Rex" cases of cutlery, which contain half a dozen each of dessert case. The lining and finish generally leave nothing to be desired, while the price is reasonable.

Stainless table and dessert knives are available in the well-known brands of Johnson, Rodgers, Lockwood, Gregory, Frank Wood and Thomas Townes. Packed in neat boxes of half a dozen, this range presents a selection covering every requirement of the trade. Two good numbers by Lockwoods and Thomas Townes are of stainless steel, with xylonite handles, and fast tangs. The latter are specially recommended as of excellent quality and value. For shearers' and picnickers' uses a steel knife and fork set is available at a low price.

The stock of blade razors comprises both English and Continental brands, all of the best quality, and every make of safety razor is obtainable.

Other cutlery includes butchers' knives, kitchen knives, rabbiters or sportsmens' knives and sheaths, or knives and steels in sheaths. A useful set is a genuine Burns bread and fruit slicing knife; this is supplied either with xylonite or rosewood handle. A very large assortment of pocket knives includes all grades from the cheapest to the highest quality.

Spoons and forks are stocked in stainless nickel silver and also in e.p. Sets of afternoon tea spoons and cake forks in half dozen presentation cases should attract buyers, as well as neat e.p.n.s. cruet sets and trays and waiters. Leading Australian makes of e.p. table ware may be ordered in a complete range.

Thompson & Rohan Pty. Ltd., of McEwan House, Melbourne, have their customary selection of cutlery and e.p. goods, including many special items suitable for Christmas gifts. A number of canteens and table cabinets of cutlery from W. R. Humphreys present a fine display. These are of high quality throughout, while the mirror finish enhances the brilliancy of the goods. A good variety is open for inspection; this applies also to cased carvers from the same makers, who excel in this department. Buyers cannot fail to be pleased with the section.

To meet the demand for cased and carded goods the firm have placed in stock a great range of Arthur Price & Co.'s lines. These people have given particular attention to this branch of silverware production, and have succeeded in offering a selection of afternoon tea spoons, cake forks and similar sets which it would be hard to pass. Designs of both articles and cases are constantly being improved upon, with the result that the buyer may rely on them for modern wares at moderate prices. Amongst a long list of carded spoons and table articles generally, special mention should be made of a collection of children's knife, fork and spoon sets, and spoon and push. Attractively cased and mounted, these make a most acceptable little gift at a low cost.

In e.p. table ware good value is obtainable in the Anstey & Wilson range of cake baskets, cruet, sweets and biscuits, while for the high-grade silver Australian makes such as "Hecworth" and "Paramount" give a good display. Full ranges are always available, and every article is plated on nickel silver. Tea and coffee services, sugar basins and shaving mugs are all stocked, while the new long shaped entree dishes appear to have captured the market. The wide choice in trophies and cups should not be overlooked, a class of goods which is specially featured here.

Christmas gifts for men include smokers' stands, cigarette boxes and ash trays in art brassware.

Forks and spoons of all kinds include the various nickel and stainless nickel patterns, together with a complete supply of James Dixon & Sons' electroplated lines; the latter representing what is doubtless equal to the highest quality obtainable in this class of goods.

Recovering Treasure from the Deep Sea.

American advices tell of an undersea exploration party, with Mr. H. L. Bowdoin at its head, bent on recovering specie and other treasure from the sea around the British, French and Spanish coasts. Especially is an attempt to be made to recover the gold and jewellery which went down with the Cunard liner "Lusitania" when she fell a victim to a German submarine off the south-east tip of Ireland.

For this work Mr. Bowdoin will be specially equipped. Instead of the usual rubber diving suit, he will have a 1400 lb. outfit of metal—steel body and overlapping units of aluminium operating on what is termed the fish scale plan. When inside this suit Mr. Bowdoin can move his arms and body to almost any angle, and the claw hands are so constructed as to pick up objects as small as half an inch. All this by the manipulation of gears and levers. He has been lowered to a depth of 200 ft. (over thirty fathoms), and remained there for forty-five minutes.

For lighting up the darkness at such ocean depths Mr. Bowdoin enlisted the help of the Westinghouse Lamp Co., who have provided special illuminators. At the head of his diving suit he will carry a 500-watt lamp of their construction, and, if need be, another such on each of his shoulders. Other and independent means of flood-lighting the area operated upon have also been devised. This consists of a framework carrying 1000-watt lamps lowered to the level of the wreck. In a small vessel bought for the purpose, Mr. Bowdoin expected to be in European waters before the end of June.

Electrical Notes from New Zealand

(Specially Contributed)

Dunedin City Council Electricity Department reports that the dismantling of the No. 4 generator at the Waipori power station has been completed, and a start made on the foundation for the fourth 3000 k.w. generator.

Hamilton Borough Council's proposed scheme for community lighting for Hamilton and Frankton, has been accepted by the Hamilton Retailers' Association. The proposal is to erect 200 candle-power lamps at intervals of 15 ft.

Wairarapa Power Board reports that the net revenue for September showed an increase of £972, compared with September, 1927. The estimated increase for the whole year was £3000, but the actual increase for the first six months was £2079.

Early in November three of the six electric locomotives for the Christchurch-Lyttelton electrification scheme arrived at Lyttelton. Although weighing 50 tons each the locomotives were shipped completely assembled, and were unloaded direct from the ship's slings on to the wharf track.

Marlborough Power Board has adopted a new milking machine tariff, to be given a trial until the end of the present season. The new rates will be: First 200 units per quarter at 4½d. per unit; next 100 units at 2d.; all over 300 units at 1½d.; with a guarantee of £5 per annum per horse power.

New Plymouth Borough Council has decided to raise a loan of £76,500 for making safe portions of the hydro-electric works. The council is endeavouring to get the Government to extend its power lines to Taranaki and to obtain a supply of electricity from the Taranaki Power Board in the meantime.

Bay of Plenty Power Board has completed arrangements for the installation of further electrical equipment in the Rangitiki Plains dairy factory, and for the electrification of the Waimana factory. The Whakatare hospital is now connected up, and cooking, water heating and sterilising equipment are being installed.

Heathcote County Council has reduced its charges for electricity for water heating in the Cashmere riding from £10 per k.w. per annum to £8 per k.w. per annum. Time switches are to be installed and a rental of 1/- per month charged. The use of current for water heating purposes will be prohibited from 5 p.m. to 9 p.m.

The proposed new power board embracing the counties of Cheviot, Waipara and Amuri is expected to materialise shortly. Provision is being made in the erection of a 33,000 volt supply line from the Addington sub-station for the North Canterbury Power Board, for the possible extension of the line to the above mentioned counties.

Napier City Council has adopted an amended tariff for domestic electric supply. For business lighting the scale of discounts will remain as at present, with a special discount of 1d. per unit on all units used per month in excess of the maximum demand of installed capacity, in kilowatts, multiplied by 40, the maximum demand meaning the total wattage of all lamps installed.

Waitaki Power Board reports that a start has been made with the connection of large consumers, one for a 100 h.p. and one for a 60 h.p. motor. The increase of load in the town and suburbs, and the extension of building operations were keeping the staff busy, electric cooking particularly demanding the provision of further and larger lines in various directions, with alterations and additions to transformers and other equipment.

Although Wanganui-Rangitikei Power Board has been operating only a few years it has decided to reduce the lighting rate from 7d. per unit to 6d., and the domestic heating rate from 3½d. to 3d., as from October 1. The saving to consumers is estimated at over £7000 a year, but it is anticipated that the revenue will be maintained by a general expansion in business. During the current year, there have been very satisfactory increases in revenue, peak load, and number of new consumers.

Grey Power Board, at a special meeting held recently to deal with the proposal to generate power from the Arnold River, resolved that application be made to the Loans Board for its sanction to a loan of £118,000 for the purchase and construction of electrical works, for the supply of electricity within the board's district, £110,000; for the purchase and equipment of offices and showrooms for the use of the board, £8000; or, for the purchase of a site and the erection and equipment of offices and showrooms, £8000.

Progress at the Arapuni hydro-electric works gives every promise that one of the generators will be in operation during next winter. The difficulties of laying the foundations of the power house have been overcome and the extremely porous bank between the river bed and the excavation which had to be grouted with liquid cement before the place could be unwatered is now being cut away. The penstock for No. 3 generating set has been extended from the cliff face and the Larner-Johnson inlet valve is at present being installed. Its casing is 16 ft. in diameter. The 100-ton electric travelling crane has been erected and is now available for handling the heavy machinery.

Hobson Power Board's consulting engineer (Mr. T. R. Overton) has submitted a report on the survey of the board's area which includes Hobson County and Dargaville borough. The estimated cost of reticulating the area is £109,000 and the revenue for the first year's operation is estimated at £15,500. The board is recommended to purchase power in bulk from Arapuni hydro-station, when available. The Otamatea and Whangarei borough councils have conferred with the engineer on the question of a complete survey of those areas, the inclusion of which would make for economical operation. The board adopted the report and resolved to negotiate with the Government for a bulk power supply from Arapuni.

Auckland Power Board proposes raising a loan of £675,000 to meet anticipated requirements during the next few years. Of this sum about £250,000 is intended for general extensions, and to meet future needs as they arise. An additional extension work contemplated is the provision of a 22,000 volt line direct from the Penrose substation to various suburban substations. This is expected to afford a great improvement on the present system of relay through the King's Wharf generating station. It is also anticipated that further tramway extensions will increase the demand for power and call for additional substations. When Arapuni power becomes available the King's Wharf plant will be used as a standby.

A proposal that the Hutt Valley Power Board should reconsider its decision not to embark upon trading in connection with private firms was defeated at a recent meeting. The chairman said that although trading might be advisable in the early stages of a board's operations, that time, in his opinion, had gone by as far as the Hutt Valley Board was concerned; it might now be expensive to maintain a trading department. Keen competition had ruled between private traders, pushing the board's business along and he did not approve of entering into competition with those firms now.

Figures giving the ratio of ranges to consumers in the districts of boards that conducted trading departments, showed that for Thames Valley Board there was one range to every twenty-one consumers; Franklin Board, one to twelve; Dannevirke Board, one to twenty; and in their own district, with no trading by the Board, one range to every eleven consumers.

The Electric Power and Lighting Committee of Dunedin City Council is faced with the prospect of having to refuse all fresh applications for electric supply at the end of this year unless extensions are put in hand which will provide additional power by the winter of 1931.

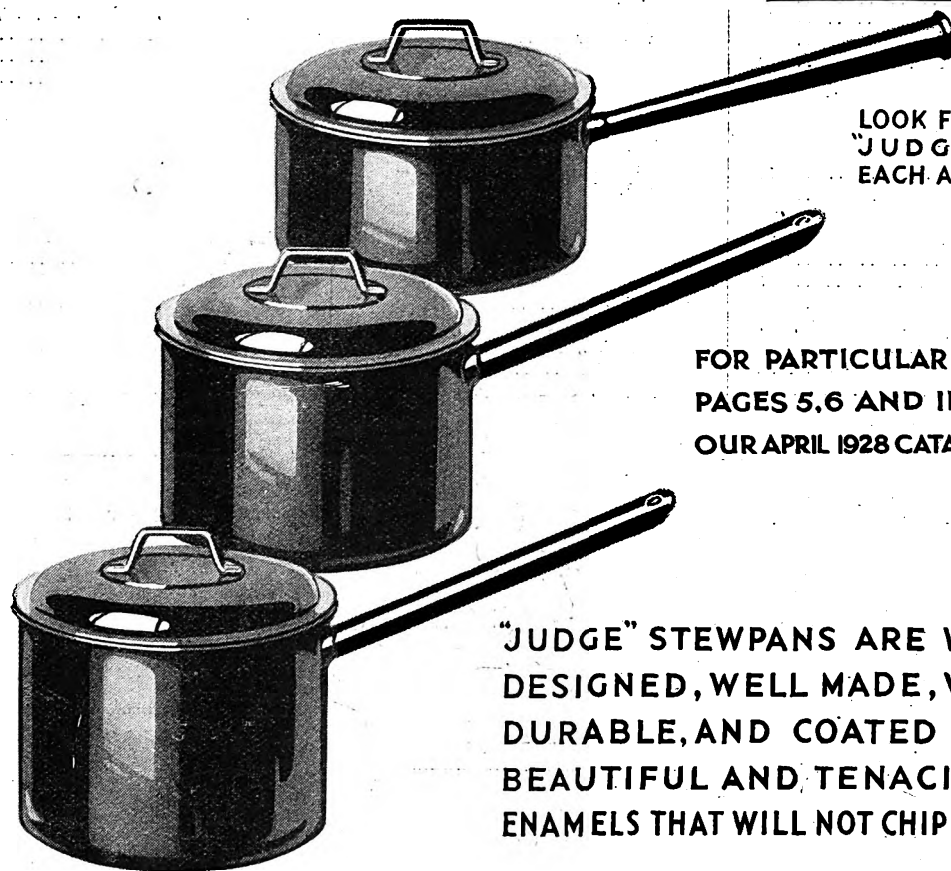
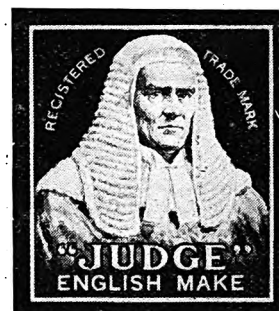
Some new generating machinery is now on order to take care of the increase in load next winter, but this will not be sufficient for later requirements.

In considering the best proposal to adopt, the purchase of a steam plant, at a cost of perhaps £100,000 has been mooted, but this would probably have to be scrapped after about five years when bulk hydro-electric supply is available. A third power station might be erected on the river below the present lower station, but Government sanction of this proposal would first have to be obtained. The committee will make a recommendation to the City Council at a later date.

A Coupon Scheme Which Back-fired.

"Travelling to Sydney by train" (says "the Australasian Grocer") "the secretary of the Grocers' Association of Victoria met a well-known member of the Victorian metal trade. The conversation covered various subjects from commodities to trade practices, and unexpectedly took a turn of special interest to grocers. The manufacturer, who had handled large quantities of brassware, said: 'We had a peculiar experience at our house some little time ago over tea. A canvasser called at the door with an article for household use made out of heavy Foo Choo brass, and offered to supply a similar article in return for a number of coupons. I think we had to collect about sixty. I was at home at the time, and the sample was brought in to me. Being connected with the metal trade I took special interest in it, and we undertook to collect the necessary coupons to secure a duplicate. We bought no other tea than the brand carrying the coupons, though we were convinced that the quality of the tea was not up to the standard claimed by the vendor. The collecting was a slow process, but we all gathered up a few coupons from our friends, and when the necessary number was secured obtained the prize. You can imagine our disgust when it turned out to be very inferior to the sample submitted to us, and had unmistakably been stamped out of thin sheet brass less than one-fifth of the weight of the sample shown at our door. Our people were so disgusted that we made up our minds never to use that coupon tea again.'"

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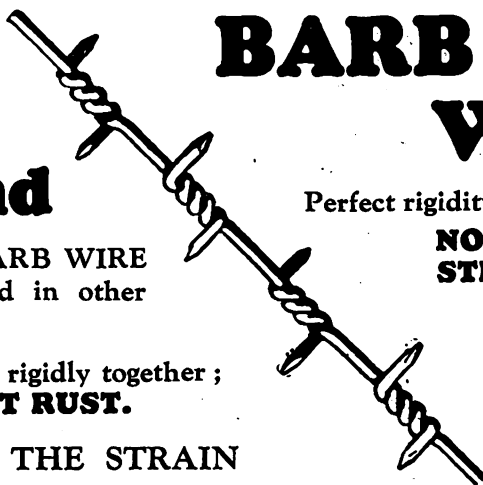
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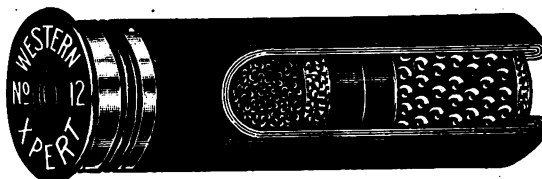
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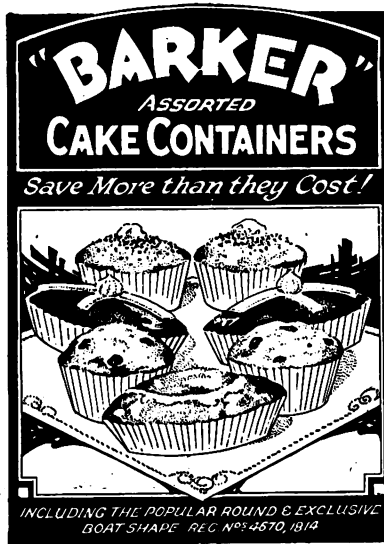
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Have you yet registered them?

Like Life Insurance it is a duty that should not be put off.

Theoretically it is easy for you to register a Trade Mark yourself.

In practice the work is surrounded by many little pitfalls and difficulties, and it is cheaper in the long run to employ a Professional Trade Mark Attorney. The Trade Press Service Department can make all the arrangements so that you will have no trouble.

The actual fee for registering a Trade Mark when unopposed is £3. The professional fee, including this £3, is £6 6s.

£4 4s. paid with the application and £2 2s. paid six months later, after acceptance of same, will secure the Registration.

Further particulars on application to—

Trade Press Service Department

372 Flinders Lane (cr. Queen St.) Melbourne

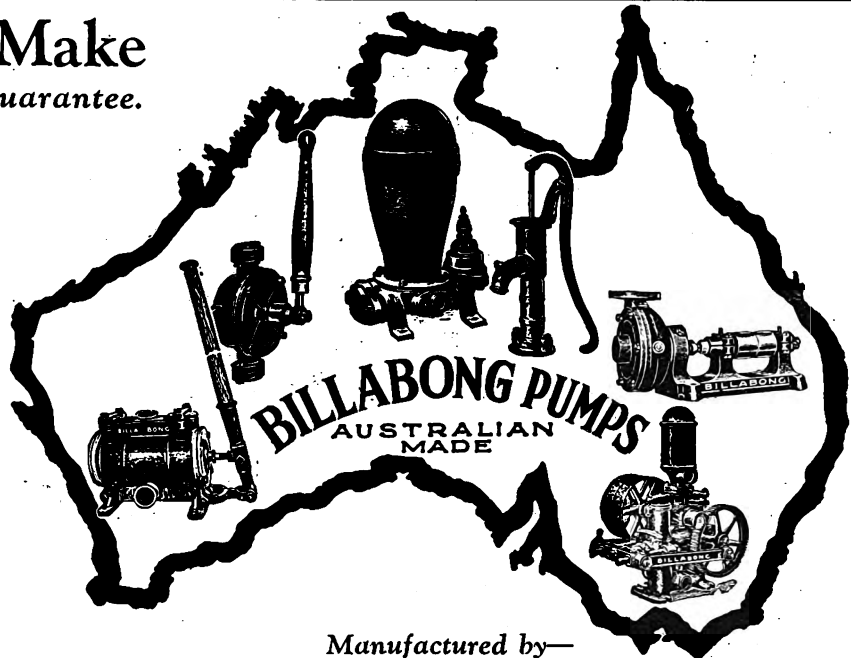
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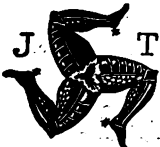


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Established 1837

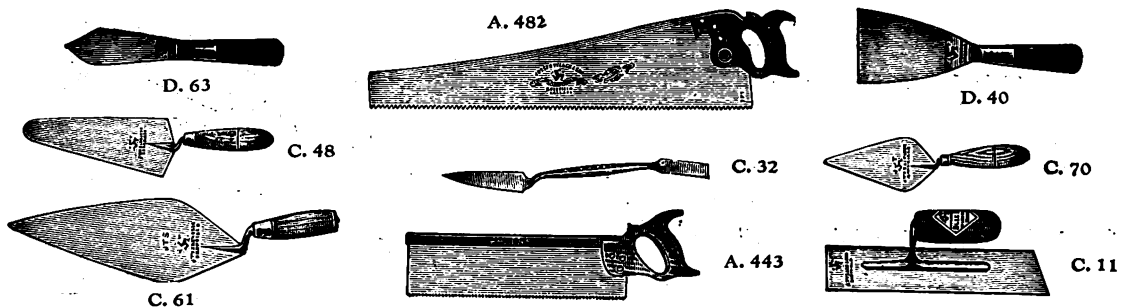
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MANUFACTURERS OF THE "THREE-LEG" TOOLS

TRADE MARK

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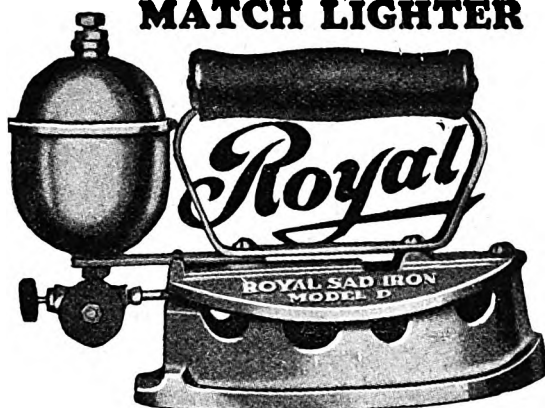


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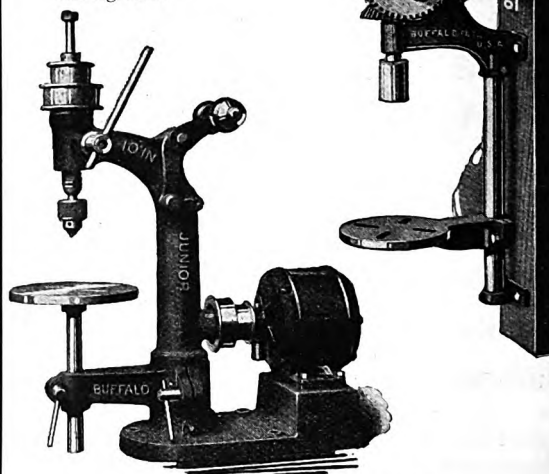
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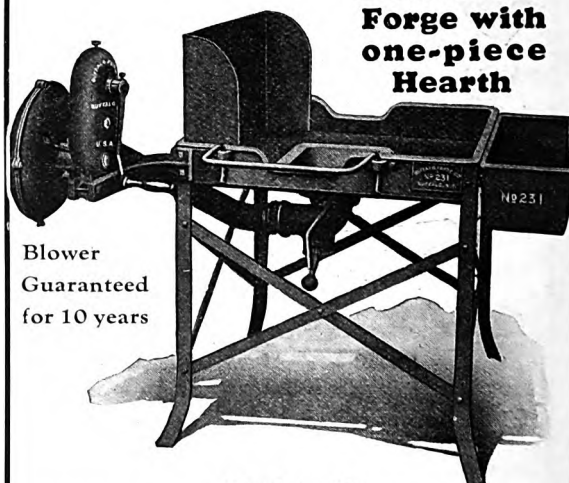
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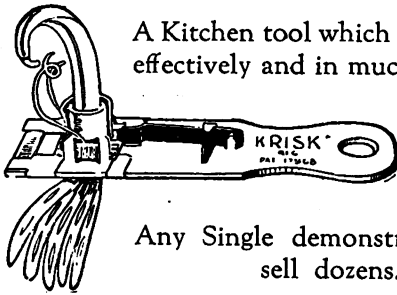
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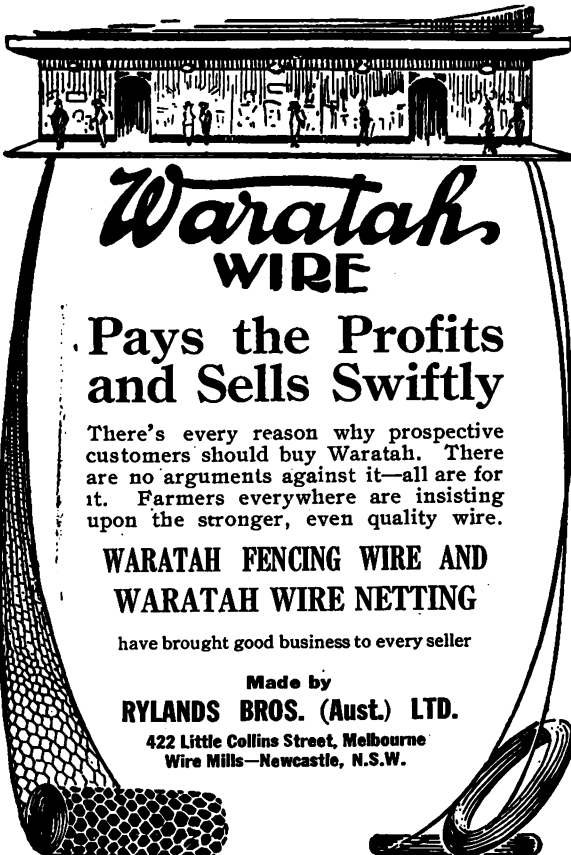
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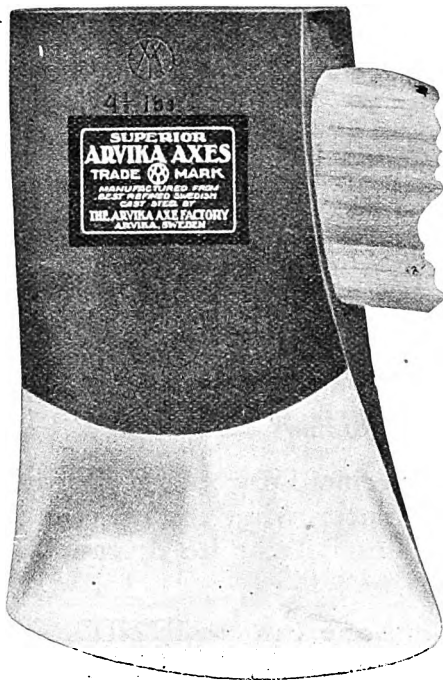
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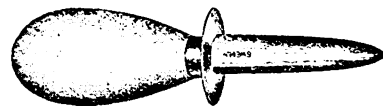
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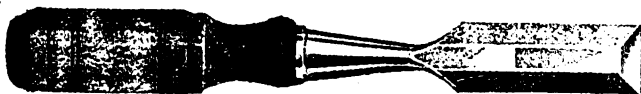


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**CHRISTMAS and NEW YEAR
HOLIDAYS**

From close of business on Saturday,
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Wednesday morning, 2nd. Jan., 1929.

NOTICE IS HEREBY GIVEN that the Proprietors of Australian Patent No. 26251 dated the 19th day of December, 1924, for "Stuffing boxes of gas meters" are prepared to satisfy any demand and all requirements of the public respecting the said invention.

Full particulars from P. M. NEWTON, Patent Attorney, C.M.F. Building, 405-7 Collins Street, Melbourne.

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Australian representative required for folding chairs suitable for cafes, halls, etc. Applications to A.A. 16/6, Melbourne office of this journal.

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British manufacturer of Petrol-Paraffin engines (Maine and Stationary) for yachts, launches, fishing boats, barges, life boats, electric lighting, aerial ropeways, farm work and pumping, wish to appoint agents in South Australia, Western Australia, Queensland and Tasmania. Communicate with A.A. 13/5, Melbourne office of this journal.

British manufacturer of high speed steels, wood-working machines, knives and engineers' tools, etc., desires to appoint agents in Australia. Purchasing or consignment basis, but preferably the former. Applications to A.A. 14/5, Melbourne office of this journal.

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The Contents consist of Sections on Workshop Equipment
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"Pyramid" Brand**

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Indispensable for every Household, Station, Farm, or Orchard.

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CHARLES WRIGHT

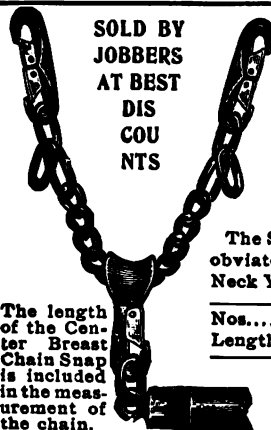
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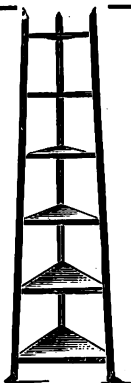
SWANS LIMITED

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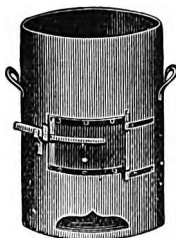
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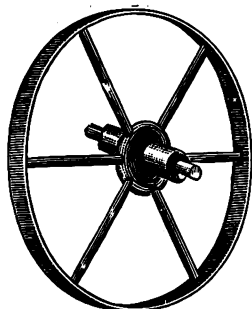
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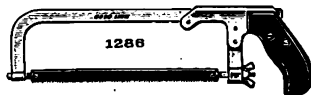
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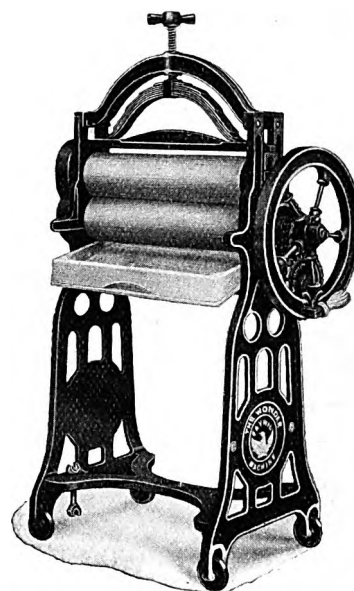
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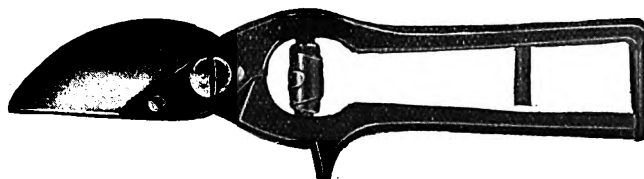
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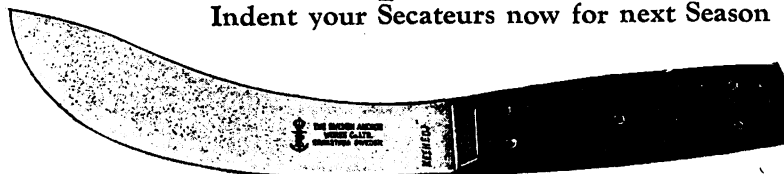
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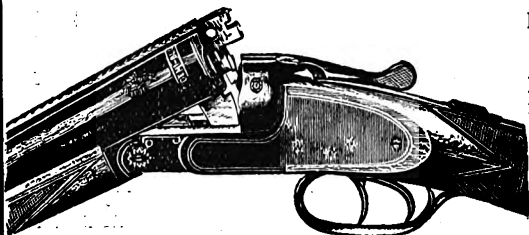
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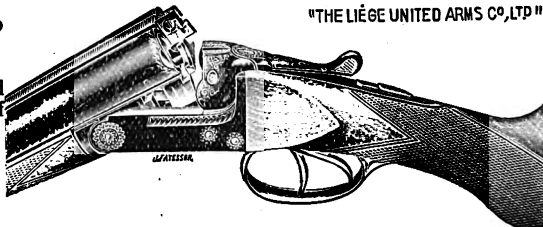
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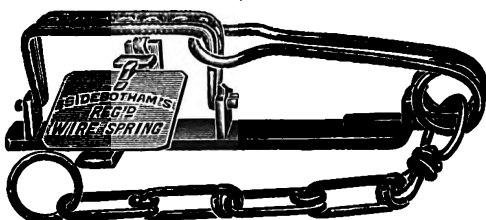
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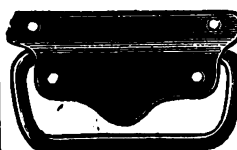
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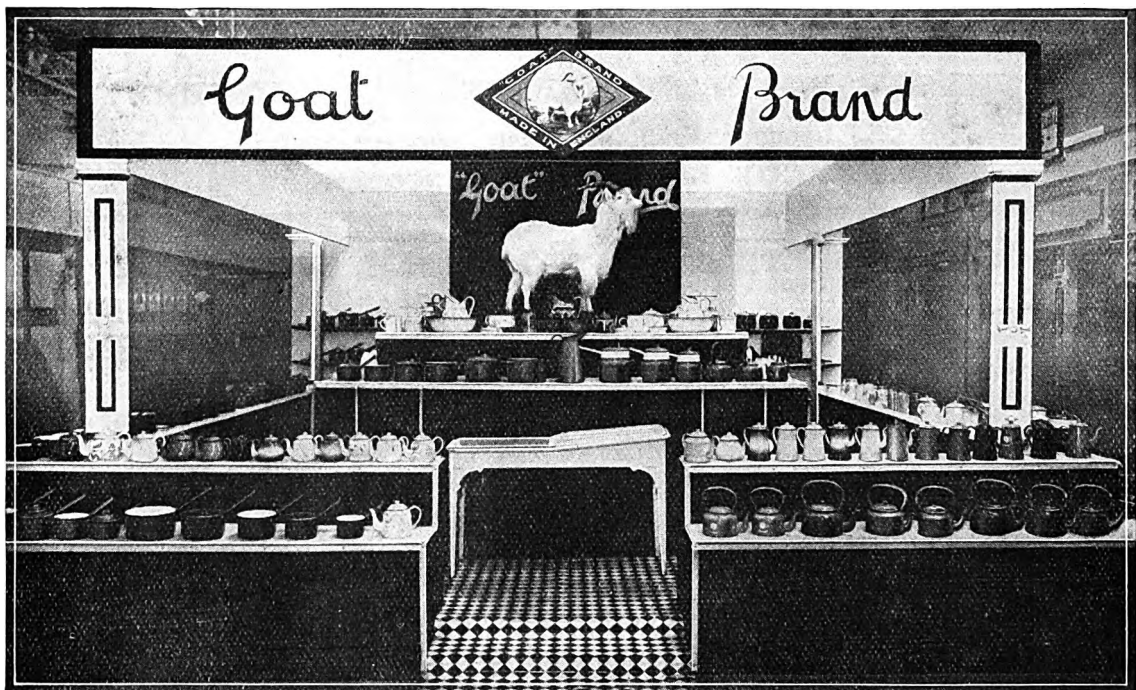
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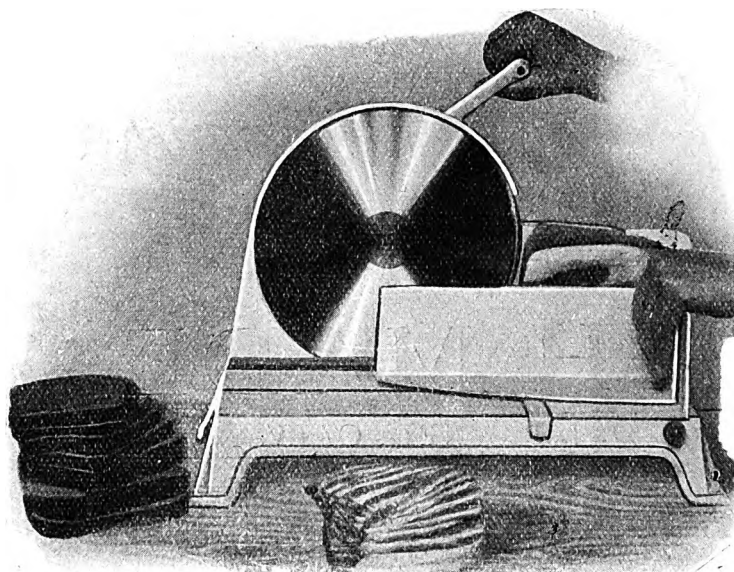
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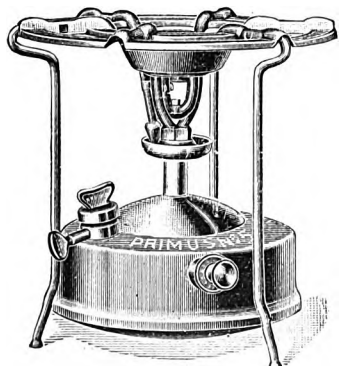
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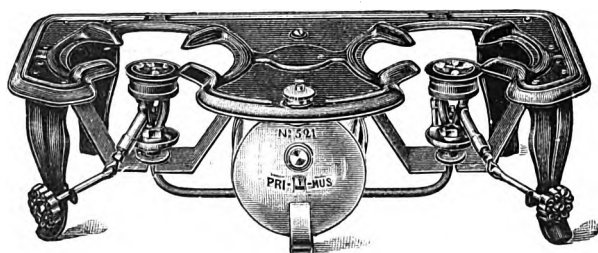
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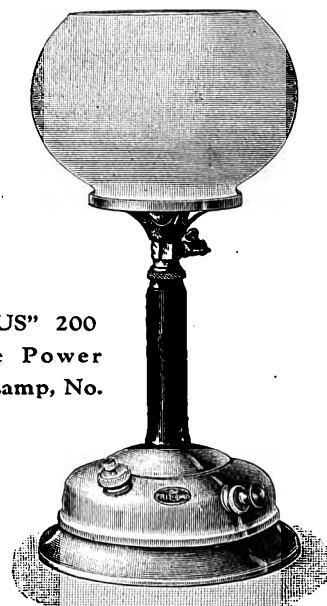
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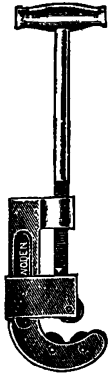
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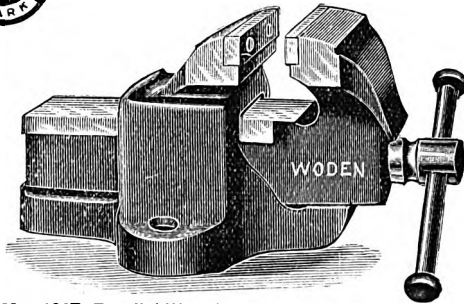
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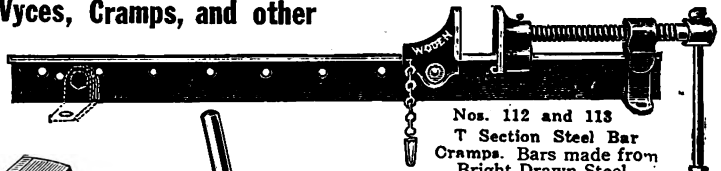
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Type)



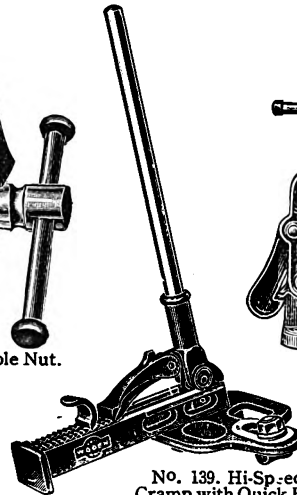
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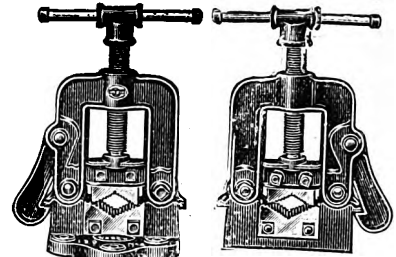
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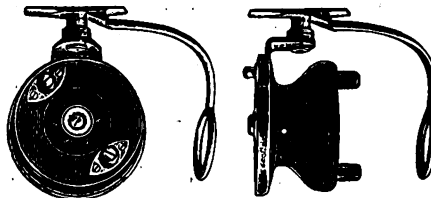
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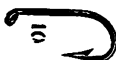
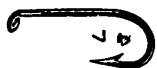
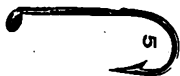
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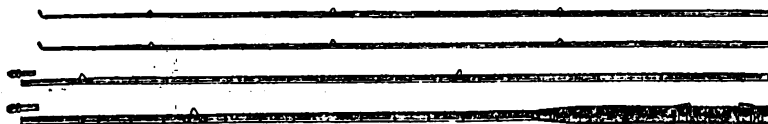
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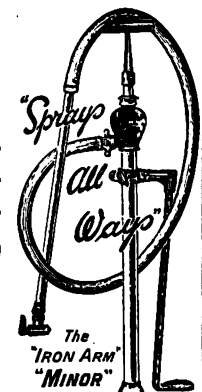
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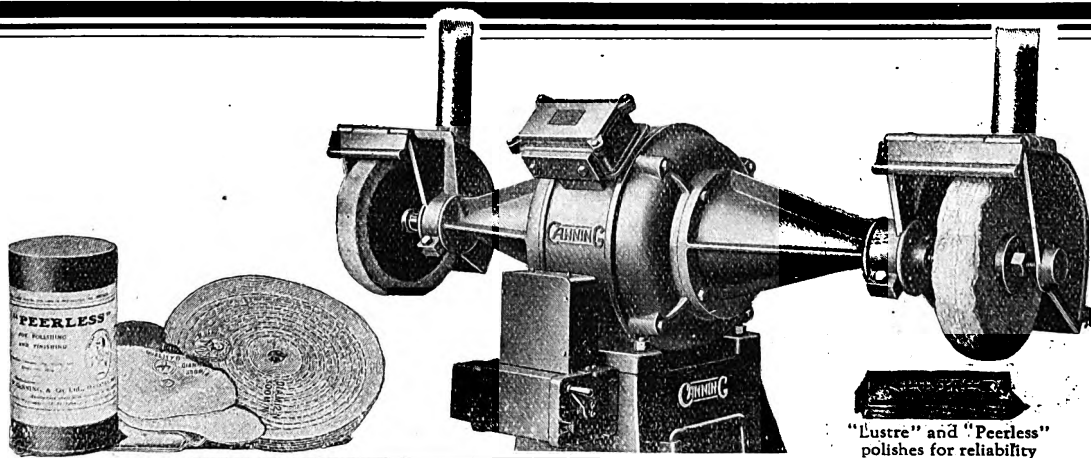
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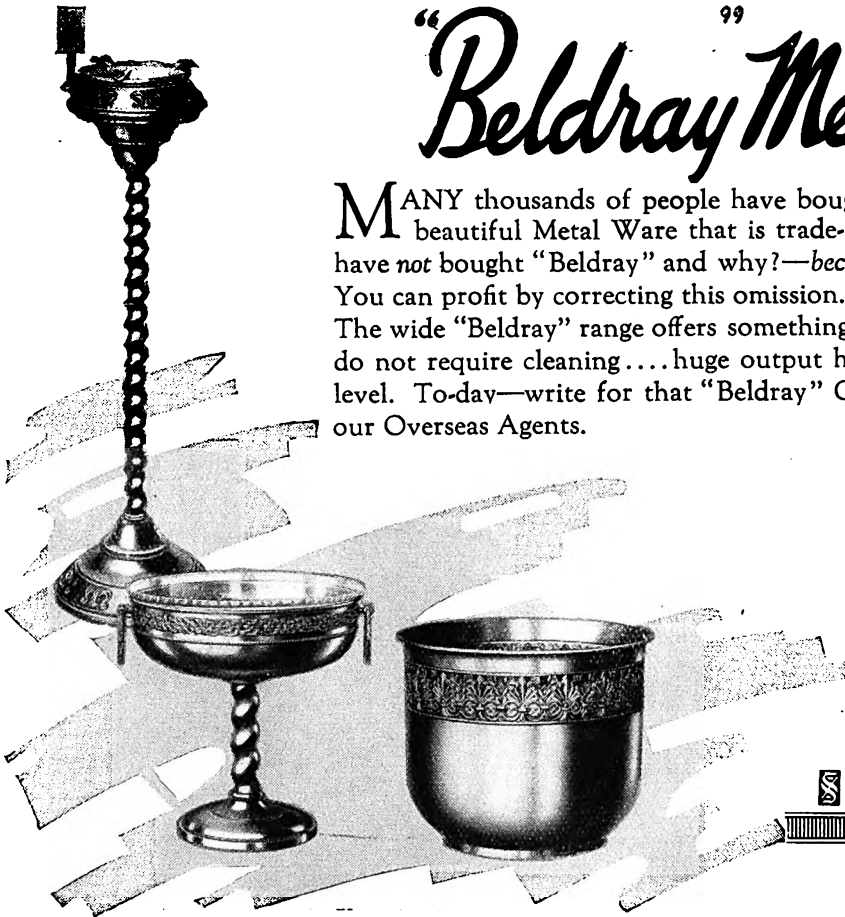
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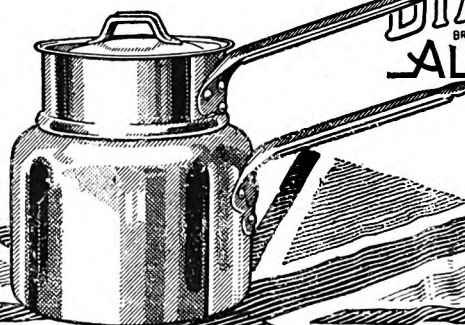
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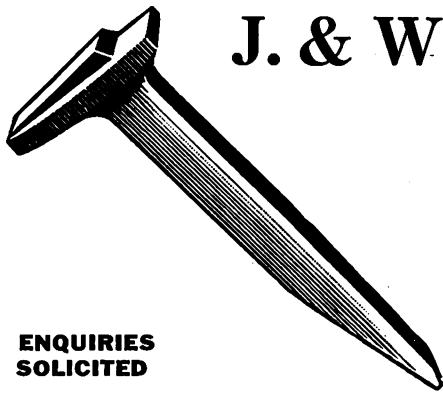
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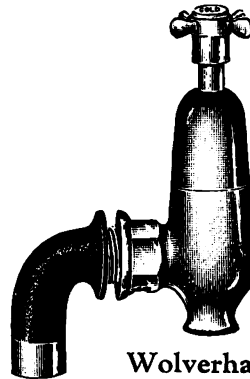
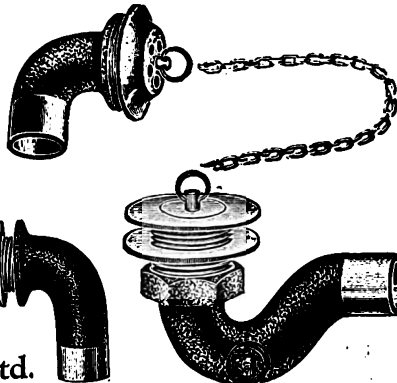
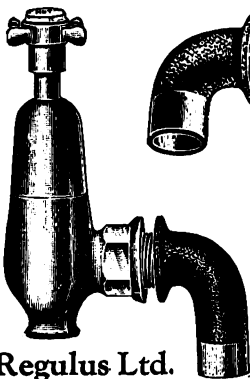
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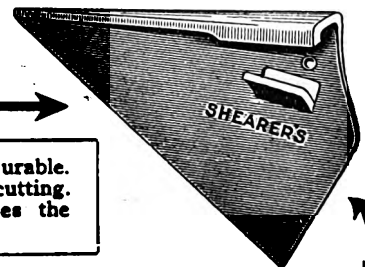
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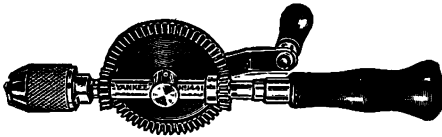
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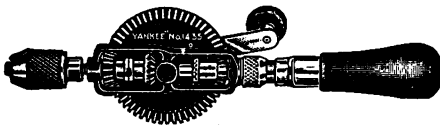
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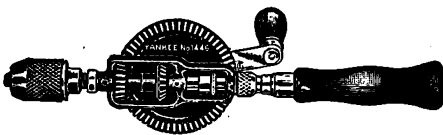


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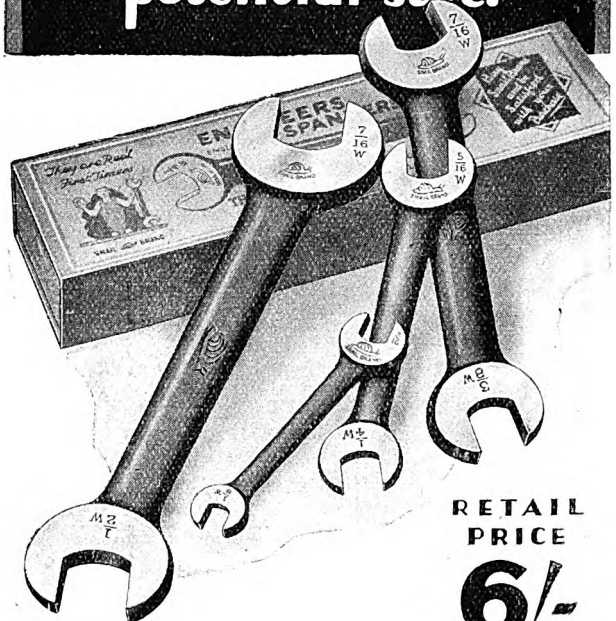
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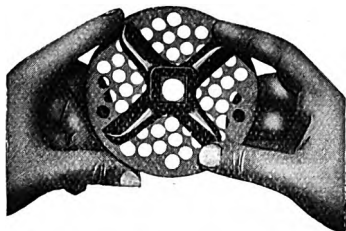
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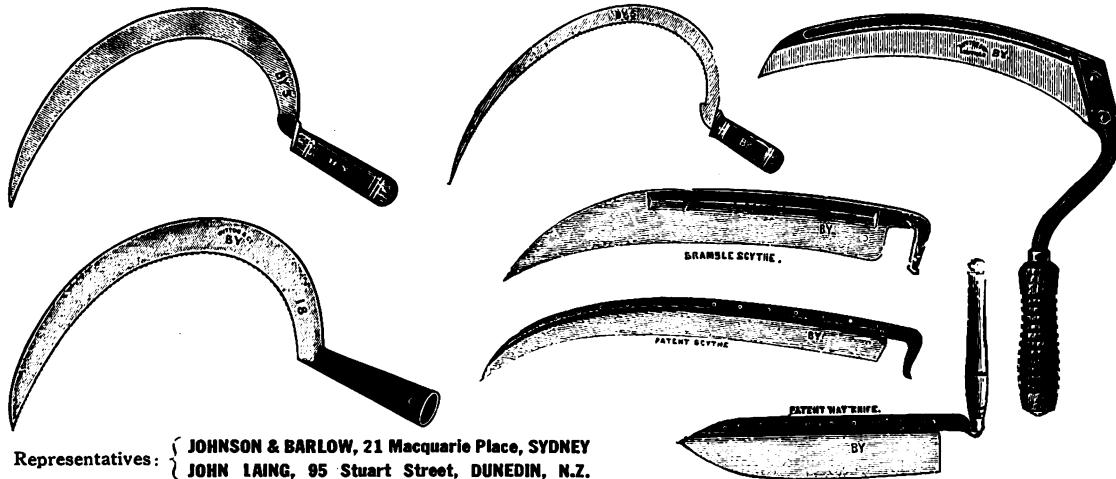


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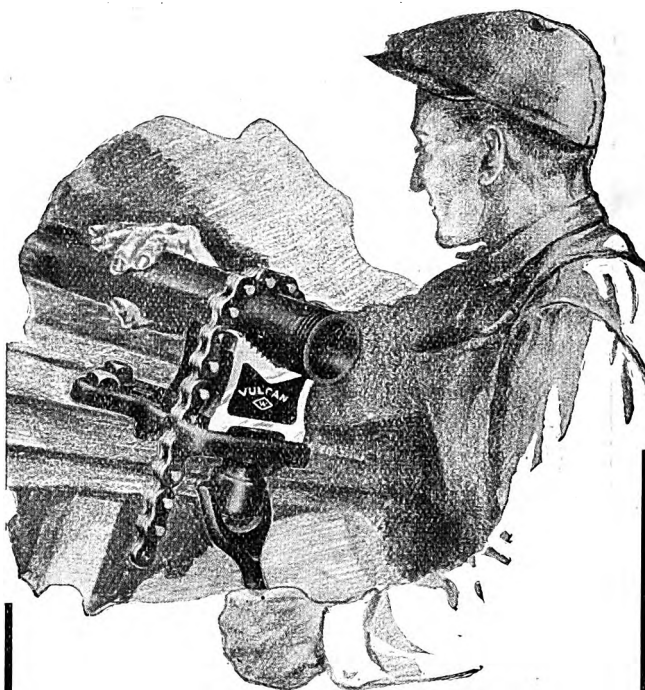
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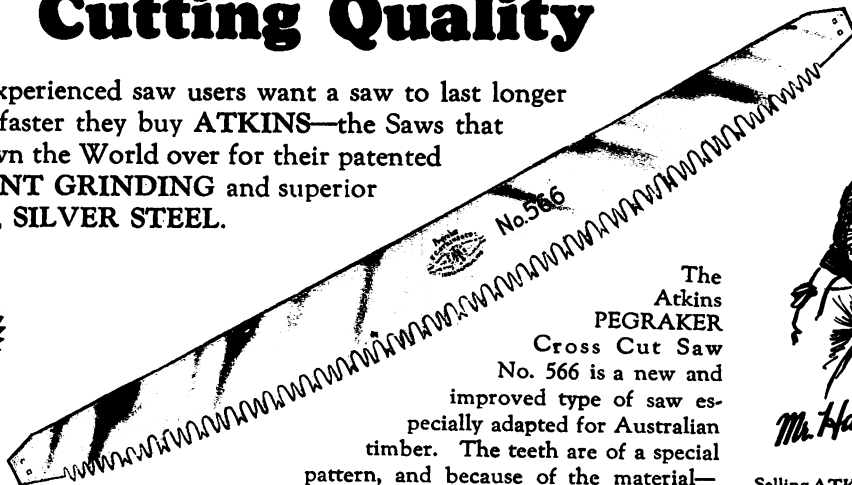
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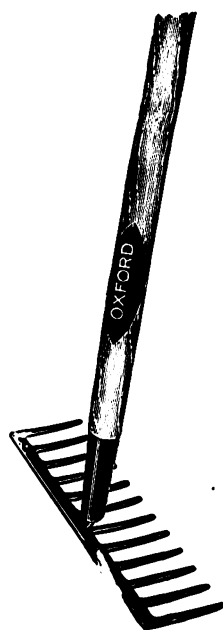
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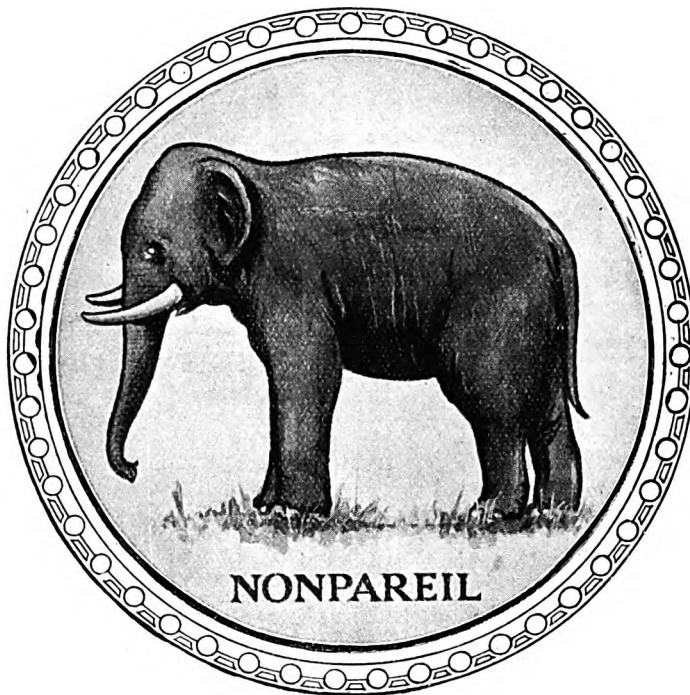
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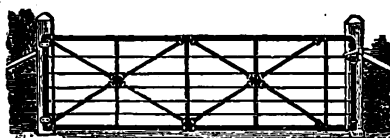
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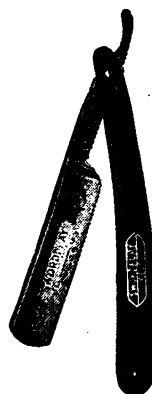
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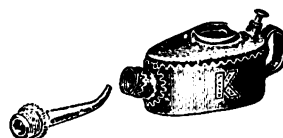
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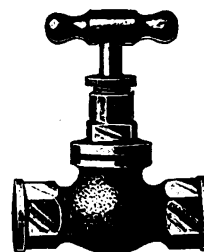
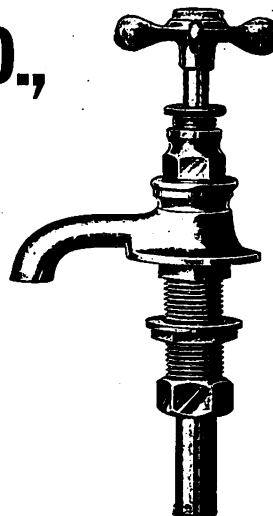
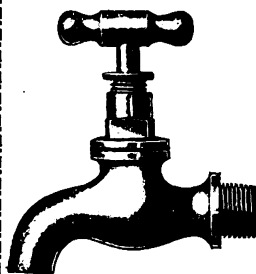
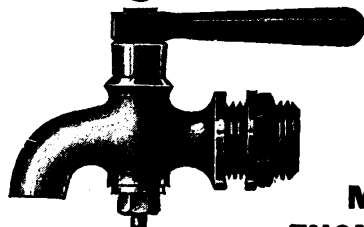
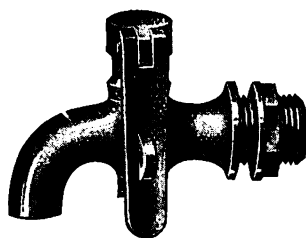
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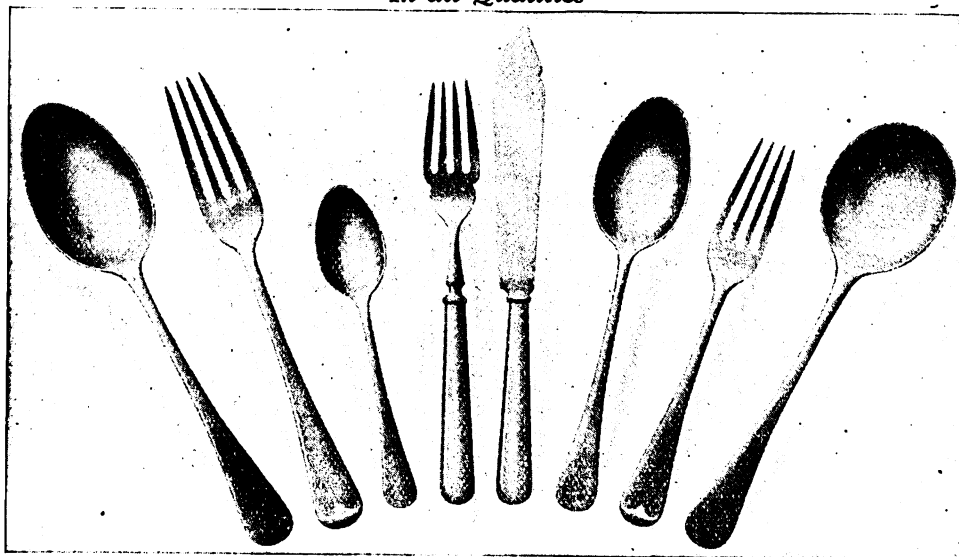
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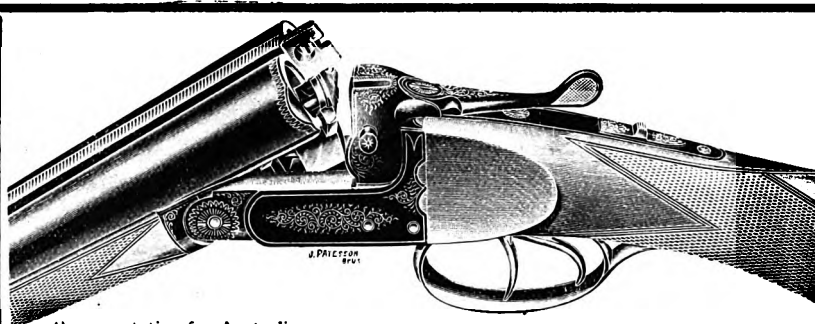
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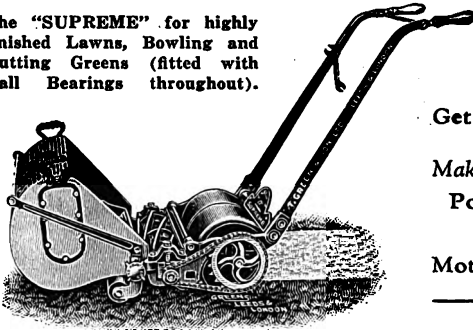
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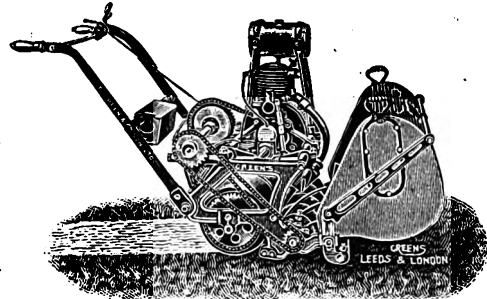
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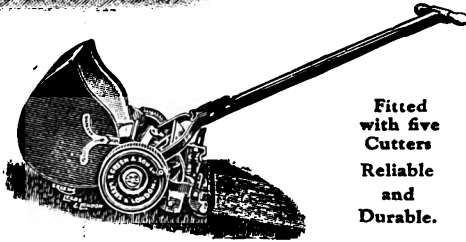
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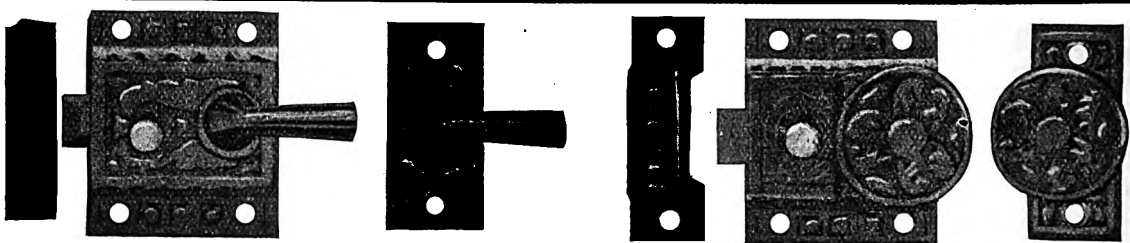
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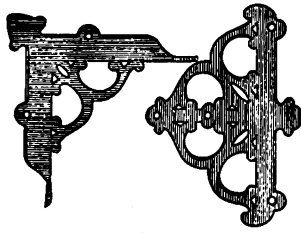
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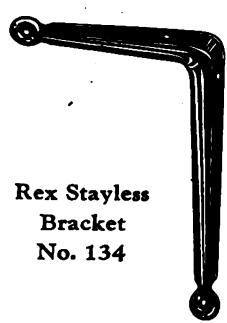
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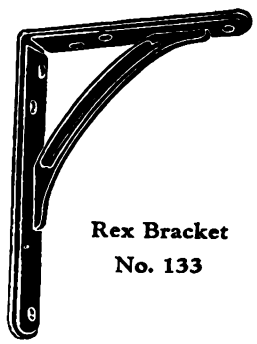


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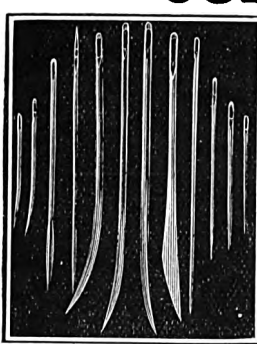


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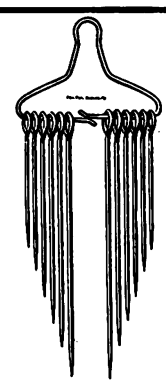


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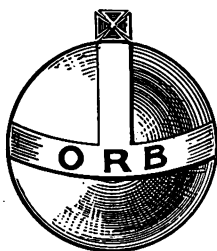
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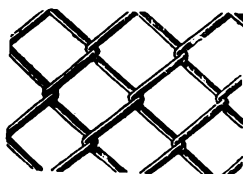
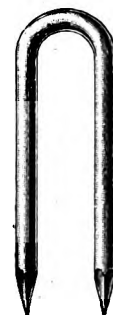
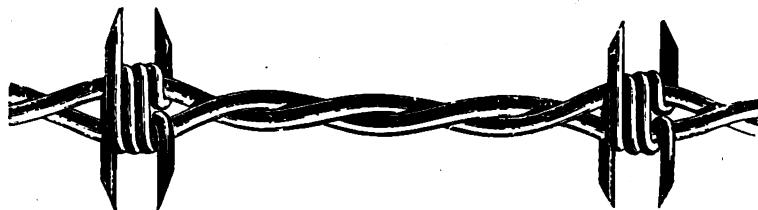
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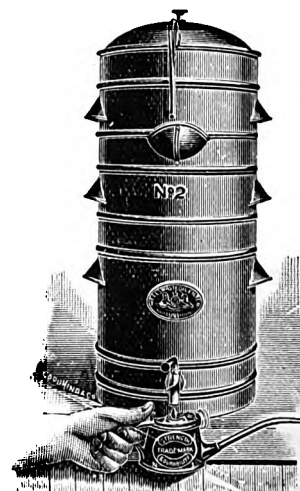
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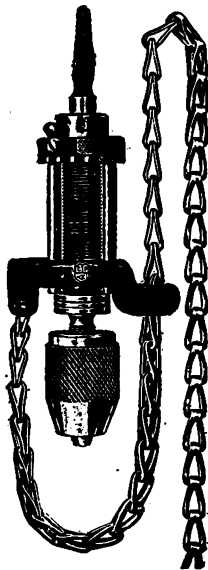
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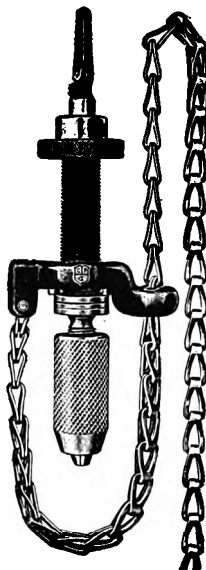
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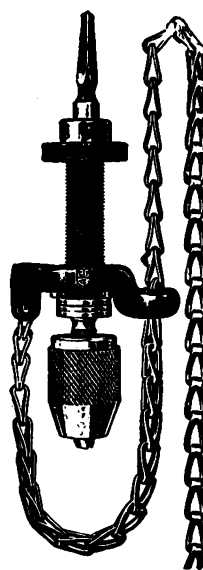
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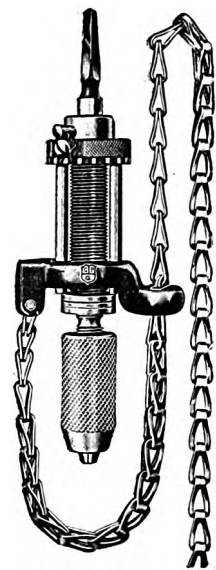
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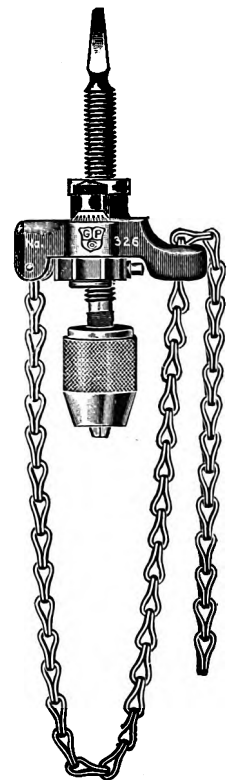
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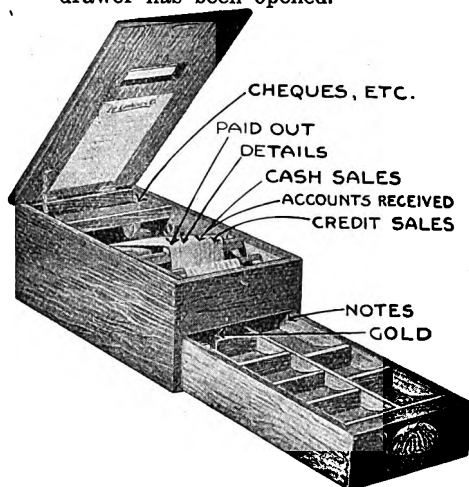
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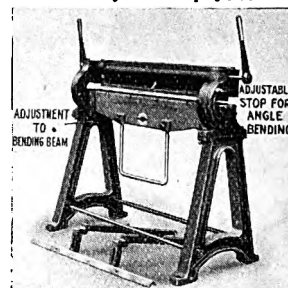
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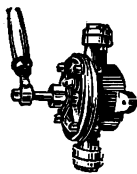
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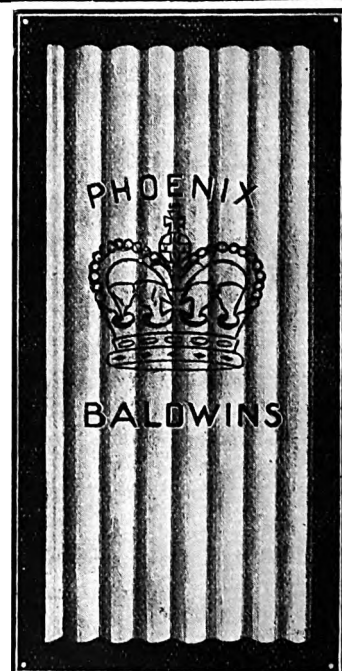
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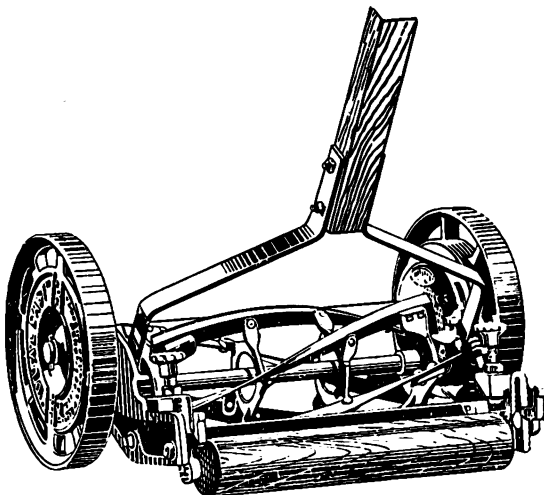
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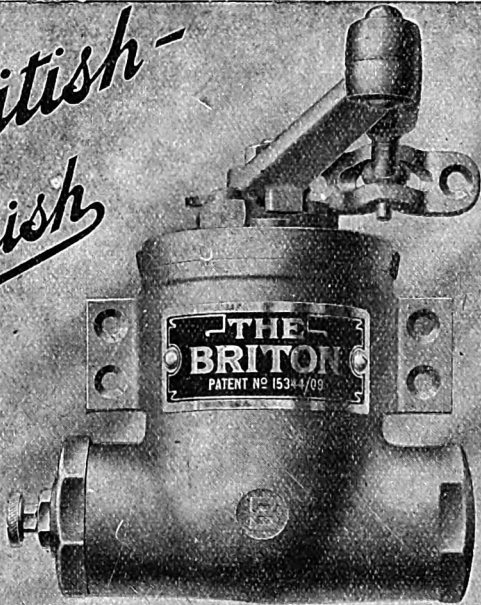
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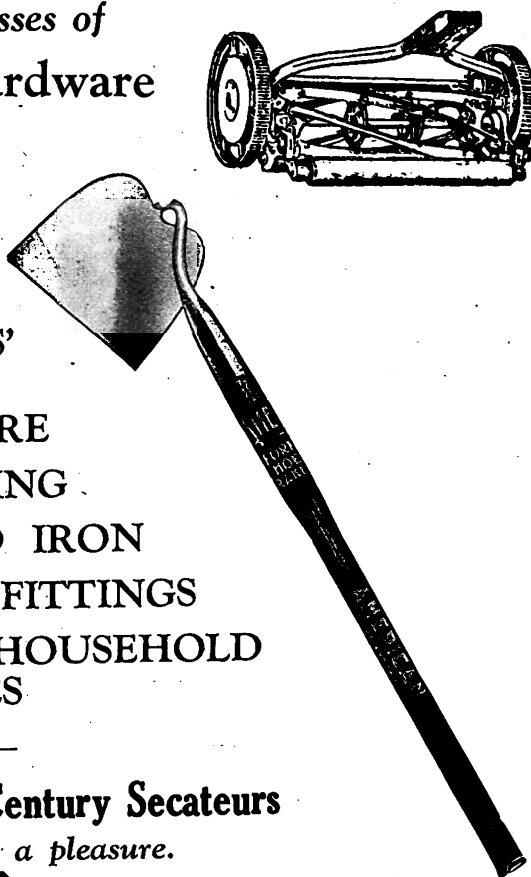
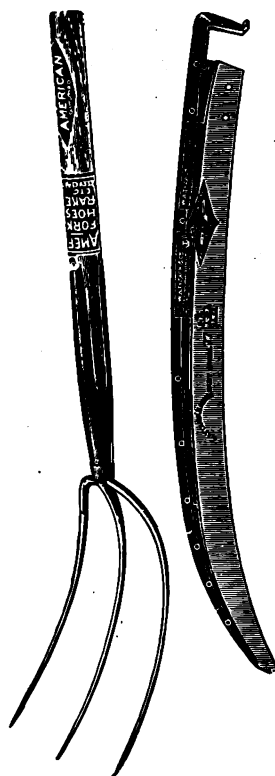
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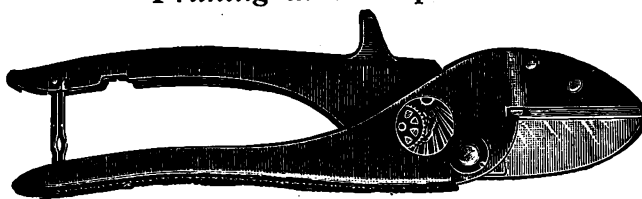


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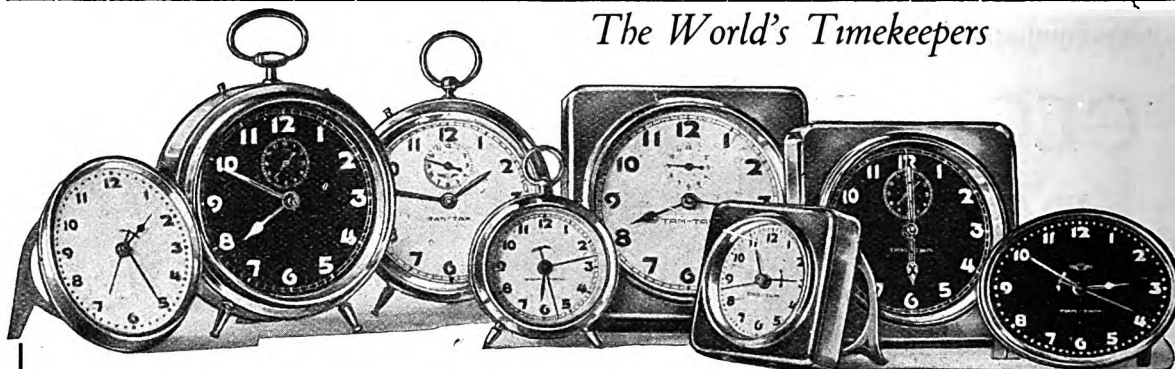
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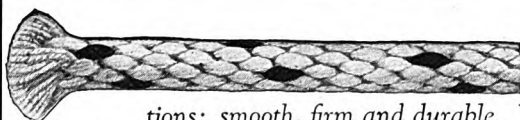
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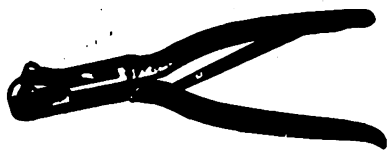
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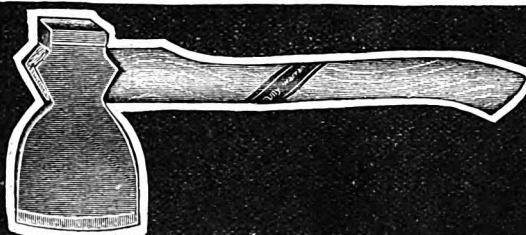
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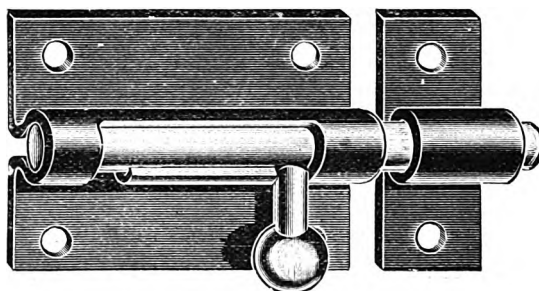
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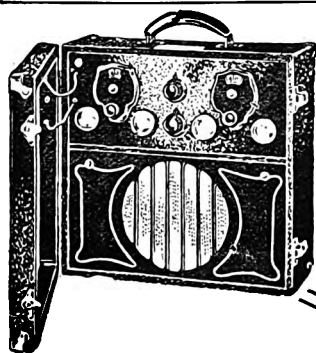
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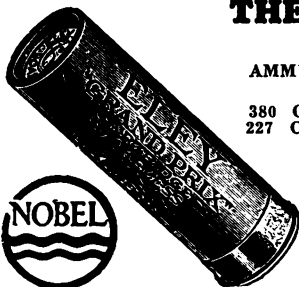
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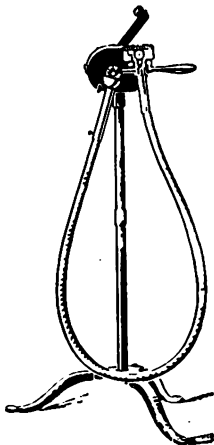
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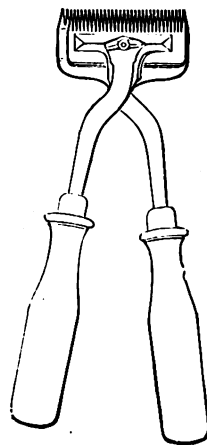


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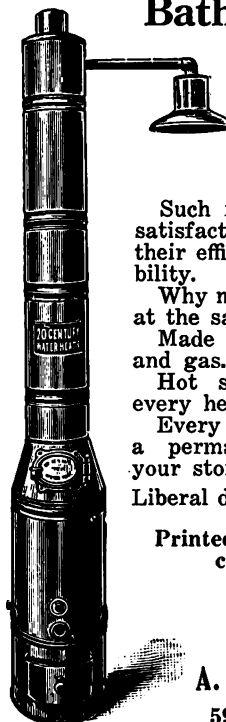
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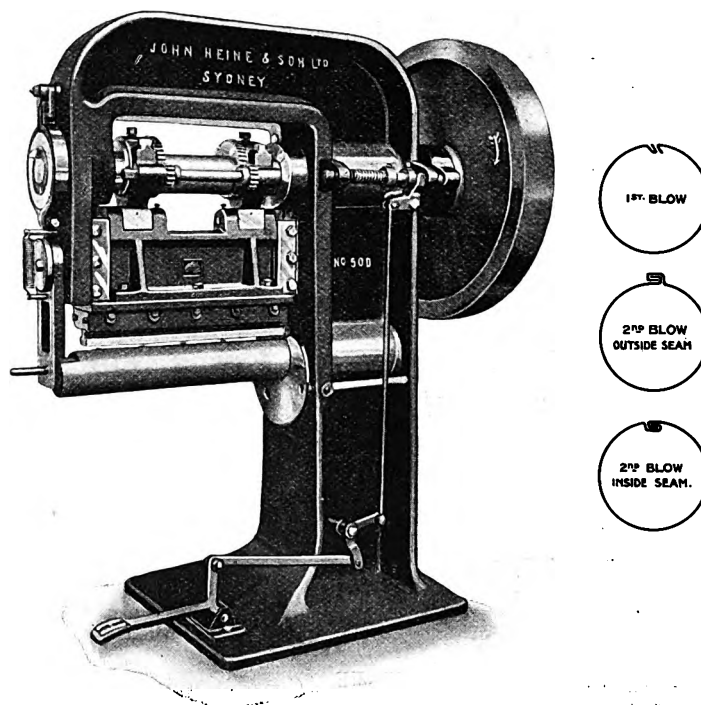
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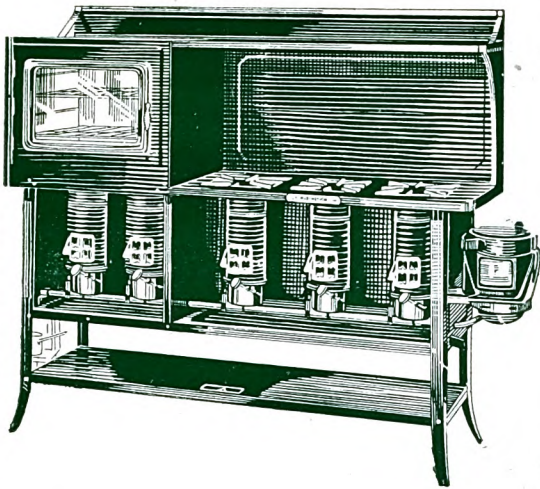
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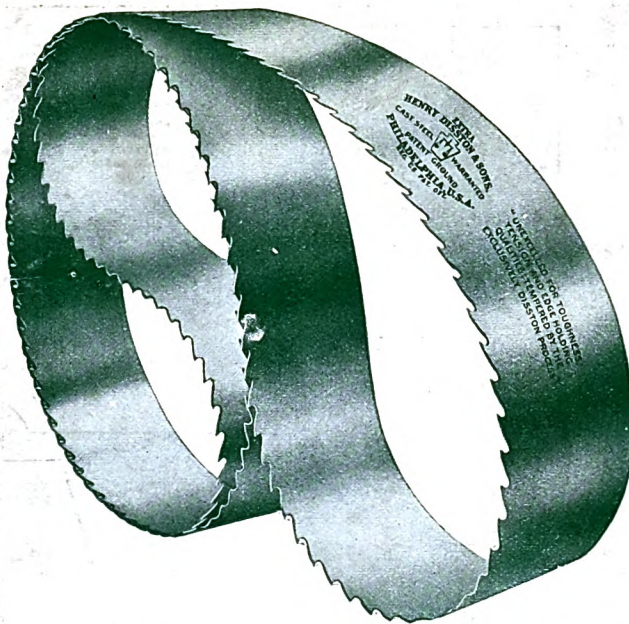
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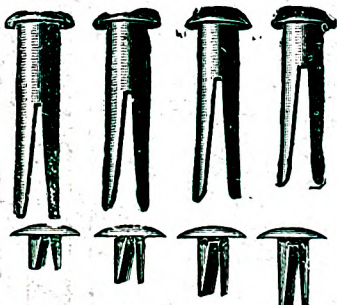
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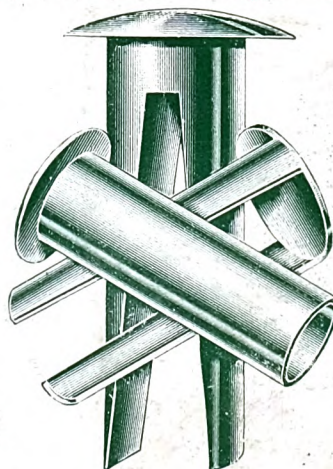
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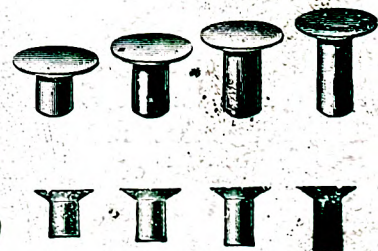
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